[redacted]

No. 15840

United States
Court of Appeals
for the Ninth Circuit

STATE OF CALIFORNIA; UNITED STATES OF AMERICA, et al., Appellants,

vs.

EVERETT G. RANK, et al., Appellees.

Transcript of Record

In Six Volumes
VOLUME III.
(Pages 859 to 1286, inclusive)

Appeals from the United States District Court for the Southern District of California, Northern Division

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that Clyde H. Spencer, Regional Director; Martin H. Blote, Regional Operations Superintendent; Edwin F. Sullivan, Fresno Supervisor; both in their capacities as individuals and in their official capacities, hereby appeal to the United States Court of Appeals for the Ninth Circuit, from that certain judgment which was docketed and entered herein on the 22d day of January, 1957, as against these pleading defendants.

Dated this 11th day of March, 1957.

/s/ J. LEE RANKIN,
Solicitor General,
/s/ WILLIAM H. VEEDER,
Attorney, Department of
Justice,
Attorneys for Appellants.

[Endorsed]: Filed March 12, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that Lindsay-Strathmore Irrigation District, Lindmore Irrigation District, Ivanhoe Irrigation District, Saucelito Irrigation District, Orange Cove Irrigation District, Tulare Irrigation District, Lower Tule River Irrigation

District, Stone Corral Irrigation District; Terra Bella Irrigation District, Porterville Irrigation District, Exeter Irrigation District and Delano-Earlimart Irrigation District hereby appeal to the United States Court of Appeals for the Ninth Circuit from that certain judgment which was directed and entered herein on the 22nd day of January, 1957.

Dated this 18th day of March, 1957.

MADDOX & ABERCROMBIE,
/s/ By JAMES K. ABERCROMBIE,
Attorneys for Appellants, Lindsay-Strathmore Irrigation District, Lindmore Irrigation District, Ivanhoe Irrigation District, Saucelito Irrigation District, Orange Cove Irrigation District, Tulare Irrigation District, Lower Tule River Irrigation District, Stone Corral Irrigation District, Terra Bella Irrigation District, Porterville Irrigation District, Exeter Irrigation District and Delano-Earlimart Irrigation District.

[Endorsed]: Filed March 19, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice Is Hereby Given that the Madera Irrigation District hereby appeals to the United States Court of Appeals for the Ninth Circuit from that certain judgment which was docketed and entered

herein on the 22nd day of January, 1957, as against the Madera Irrigation District.

Dated this 22nd day of March, 1957.

DAVID E. PECKINPAH,
DENVER C. PECKINPAH,
HAROLD M. CHILD,
/s/ By DAVID E. PECKINPAH,
Attorneys for Madera Irrigation District.

Affidavit of Mailing Attached.

[Endorsed]: Filed March 22, 1957.

[Title of District Court and Cause.]

AMENDED AND CORRECTED FINDINGS OF FACT AND CONCLUSIONS OF LAW

Good cause appearing therefor and in the interest of justice, the Court now makes its Corrected and Amended Findings of Fact, Conclusions of Law and Judgment. [3663]

Findings of Fact

All of the findings of fact herein contained are found by the court to be true from a preponderance of all of the evidence in the whole case, after carefully weighing it and giving due consideration to all the factors required by the trier of facts to be taken into consideration in making a decision on the facts.

Any statements and conclusions of law, even though stated in these findings of fact, are nevertheless hereby found to be conclusions of law.

Any findings of fact stated in the conclusions of law are nevertheless hereby found to be a finding of fact, even though stated in the conclusions of law.

The Opinion of the above entitled court heretofore filed in the above entitled action and dated the 7th day of February, 1956 and the Supplemental Memorandum After Hearing, dated the 11th day of July, 1956 are hereby expressly annexed and made a part of these findings. All findings of fact stated therein are hereby found to be findings of fact of these said findings unless specifically contrary to specific findings of fact otherwise herein contained in which case the specific finding shall be deemed the finding of this court. Said Opinion and Supplemental Memorandum After Hearing immediately precede Exhibit 1 of these findings.

In making a finding of the amount of water that any named plaintiff is entitled to under a prescriptive or appropriative right anywhere in these findings, it is not the intention of the court to attempt to divide the waters of the San Joaquin River between the plaintiffs or any member of their class: the purpose of making a finding on prescriptive or appropriative rights being to establish the vested right of such named plaintiff to water against the defendants, or all or any of them, and to qualify the named plaintiffs as a proper party to represent the class action involving prescriptive or ap-

propriative rights although [3664] a specific finding as to the right to a specific amount and use of water must of necessity be made in such a case.

The foregoing statements and incorporation of said Opinion apply to all findings of fact on Complaints in Intervention.

Finding 1. The court finds that Duane M. Folsom and E. Florence Folsom and Bertha Folsom, at the time of the filing of the above entitled action were the owners in fee and entitled to the possession of those certain lands located in the County of Fresno, State of California, and more particularly described as follows:

Government Lots 4, 5, 6 and 7, and the S½ of the NE¼ of Section 10, and the NW¼ of Section 11, all in Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United States Government Township Plats, in the County of Fresno, State of California and all lands contiguous thereto to the center of the San Joaquin River.

In this regard the court finds that Bertha Folsom, during the course of the trial of the above entitled action, did transfer her interest in the above described real property to Duane M. Folsom and by order of the above entitled court dated the 17th day of September, 1954, said Bertha Folsom was dropped as a party plaintiff in the above entitled action, and that thereafter Duane M. Folsom and E. Florence Folsom were, and now are, the owners in fee of said above described lands and entitled to the possession of the same.

The court finds that the above described lands, except that portion thereof described in Exception 1 of this finding, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owners of said lands, excluding the lands described in Exception 1 hereof to [3665] take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

The court finds that the following portion of the first above described real property, more particularly in this finding set forth and described as Exception 1 of this finding, did not abut or border upon said San Joaquin River at the time of the filing of plaintiffs' complaint, and does not now abut or border upon said river, and is not now, nor was it at the time of the filing of plaintiffs' complaint, riparian to said San Joaquin River, but that said lands described in Exception 1 of this finding, and the owners thereof now have, and at the time of the filing of plaintiffs' com-

plaint had, appropriative and prescriptive rights to divert and use, by reasonable methods of diversion and use, up to 1400 gallons, per minute, of the surface flow of the waters of said San Joaquin River for the irrigation of crops and other reasonable and beneficial uses upon the lands hereinafter in this finding set forth and described in said Exception 1; said appropriative and prescriptive rights, the court finds, having been obtained by plaintiffs Duane M. Folsom and E. Florence Folsom, and their predecessors in title and interest by the continuous, open, notorious and adverse taking, diversion, appropriation and use upon said excepted lands for the irrigation of crops and other reasonable and beneficial uses upon said excepted lands under claim of right thereto of up to 1400 gallons, per minute, of said waters of said San Joaquin River, [3666] by means of pumping said waters directly from said river and conveying the same by means of ditches, pipes and conduits to and for said uses on said lands described in Exception 1 hereof, for a period of 47 years beginning in 1909. That all of said water so diverted and used on said excepted lands was at all of said times, and now is, reasonably necessary for said uses, and at all said times was and now is taken by reasonable methods of diversion and use.

That said following described excepted land, hereinabove referred to as Exception 1 of this finding, is located in Fresno County, California, and more particularly described as:

Exception 1. The NW¼ of Section 11, Town-

ship 12 South, Range 20 East, MDB & M, Fresno County.

Finding 2. That Everett G. Rank and Evelyn Lydia Rank are and were at the time of the filing of the above entitled action, the owners in fee and entitled to the possession of those certain lands located in the County of Fresno, State of California, and more particularly described as follows:

That certain real property located in the County of Fresno, State of California, described as follows:

The W½ of the SW¼ of the SW¼ of Section 1, Township 12 South, Range 20 East, Mount Diablo Base and Meridian according to the United States Government Township Plats.

A portion of Lot 10 of Section 2, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United States Government Township Plats, bounded by the south and northwest lines of said Lot 10 and by a line commencing on said south line at a point at that distance from the angle formed by said south line and northwest line which when projected at right angles north to said northwest line includes 2.78 acres, and no more. Also the E½ of the SE¼ of Section 2, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United States Government Township Plats; and all lands contiguous thereto to the center of the San Joaquin River; Except therefrom the following: Commencing at the southeast corner of the SE¼ of said Section 2; thence north 840 feet; thence west 800 feet; thence

south 840 feet and thence east 800 feet to the point of commencement.

The court finds that the above described lands, except that portion of said lands described in Exception 1 of this finding, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owners of said lands, excluding the lands described in Exception 1 hereof, to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

The following portion of the above described real property, more particularly in this finding hereinafter set forth and described as Exception 1, did not, at the time of the filing of the above entitled action, and does not now, abut or border upon said San Joaquin River, and is not now, nor was it then, riparian to said river, nor did it, or the owners thereof, at the time of filing the within action, have appropriative or prescriptive rights to the surface waters of said San Joaquin River for

use on said land described in Exception 1. [3668]

Exception 1.

The W-½ of the SW-¼ of the SW-¼ of Section 1, Township 12 South, Range 20 East, Mount Diablo Base and Meridian according to the United States Government Township Plats.

Finding 3. That Evelyn Lydia Rank is and was at the time of the filing of the above entitled action, the owner in fee and entitled to the possession of the following described real property located in the County of Fresno, State of California, and more particularly described as follows:

That portion of the SE-¼ of the SE-¼ of Section 2, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United States Government Township Plats, described as follows:

Commencing at the southeast corner of the SE-¼ of said Section 2; thence north 840 feet, thence west 800 feet; thence south 840 feet and thence east 800 feet to the point of commencement.

That said land more particularly set forth and described in this finding, at the time of the filing of the above entitled action, did not and does not now abut or border upon said San Joaquin River, and was not then, and is not now, riparian to the San Joaquin River, and did not, nor did the owner thereof, at the time of filing the within action, have appropriative or prescriptive rights to the surface flow of the waters of said San Joaquin River for use on said land.

Finding 4. That Everett G. Rank is and was

at the time of filing of the above entitled action, the owner in fee and entitled to the possession of that certain real property located in the County of Fresno, State of California, and described as follows:

Lots 5 and 9 in Section 2 and Lot 9 in Section 3, in Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United States Government Township Plats; and all lands contiguous thereto to the center of the San Joaquin River which said lands in this paragraph defined and all [3669] accretions thereto are commonly known and referred to as "Island No. 1," "Cobbs Island", "Rank Island" and "Elkins Island".

The Court finds that the above described land, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owners of said lands, to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

Finding 5. That J. E. Cobb is and was at the time of filing of the above entitled action, the owner in fee and entitled to the possession of the following described real property located in the County of Madera, State of California and more particularly described as:

In Section 20 and 21, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, the area described as follows: Beginning at an iron pipe which is S 61° 42′ W. 1131.4 feet from an iron pipe on the north line of said Section 21, which is 674.0 feet easterly from the northwest corner of said Section 21; thence S 61° 42′ W. 268.6 feet to an iron pipe; thence S. 50° 14′ W. 667.7 feet to an iron pipe; thence East parallel with and 1088.3 feet south of the north line of said section, a distance of 3148.8 feet, to an iron pipe; thence East to the intersection with the easterly boundary line of Lot 1 of said section; thence following the easterly boundary line of said Lot 1 northeasterly to a point which is 534.9 feet southerly at right angles from the north line of said section; thence West parallel with and 534.9 feet south of the north line of said section to an iron pipe; thence West a distance of 3132.3 feet to the point of beginning and all lands contiguous [3670] thereto to the center of the San Joaquin River.

That portion of E-½ of Section 9 lying in Madera County and NW¼ of NW¼ and Lots 1 and 2 in Section 10, Township 12 South, Range 20 East, Mount Diablo Base and Meridian; and all

lands contiguous thereto to the center of the San Joaquin River.

The Court finds that the above described lands, except that portion of said lands described in Exceptions 1 and 2 of this finding, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owner of said lands, excluding the lands described in Exceptions 1 and 2 hereof, to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

The court finds that the following portion of the first above described real property, more particularly in this finding set forth and described in Exception 1 of this finding, did not abut or border upon said San Joaquin River at the time of the filing of plaintiff's complaint, and does not now abut or border upon said river, and is not now, nor was it at the time of the filing of plaintiffs' complaint, riparian to said San Joaquin River, but

that said lands described in Exception 1 of this finding have, and the owner thereof now has, and at the time of the filing of plaintiffs' complaint, had prescriptive rights to divert and use, [3671] by reasonable methods of diversion and use, up to 1000 gallons, per minute, of the surface flow of the waters of said San Joaquin River for the irrigation of crops, and other reasonable and beneficial uses upon the lands hereinafter in this finding set forth and described in Exception 1; said prescriptive rights, the Court finds, having been obtained by plaintiff J. E. Cobb, and his predecessors in title and interest, by the continuous, open, notorious and adverse taking, diversion, appropriation and use upon said excepted lands for the irrigation of crops and other reasonable and beneficial uses upon said excepted lands under claim of right thereto of up to 1000 gallons, per minute, of said waters of said San Joaquin River, by means of pumping said waters directly from said river and conveying the same by means of ditches, pipes and conduits to and for said uses on said lands described in Exception 1 thereof, for a period of 25 years prior to filing the above entitled action. That all of said water so diverted and used on said lands described in Exception 1 of this finding was at all said times, and now is, reasonably necessary for said uses, and at all said times was, and now is, taken by reasonable methods of diversion and use.

Exception 1.

Those portions of the real property hereinbefore and in this finding described lying in Section 20,

Township 12 South, Range 20 East, M.D.B. & M., Madera County.

Exception 2.

The NE-¼ of Section 9, Township 12 South, Range 20 East, M.D.B. & M., lying in Madera County.

That said land described in said Exception 2 of these findings did not at the time of the filing of the above entitled action, and does not now, abut or border on said San Joaquin River, and was not then, and is not now, riparian to said river, nor did it, or the owner thereof, at the time of filing [3672] the within action, have prescriptive or appropriative rights to the surface flow of the waters of said San Joaquin River for use on said lands described in Exception 2 hereof.

Finding 6. That J. E. Cobb and Ruby Cobb are and were at the time of filing of the above entitled action, and now are, the owners in fee and entitled to the possession of the following described real property located in the County of Madera, California, and more particularly described as:

In Section 16, Township 12 South, Range 20 East, Mount Diablo Base and Meridian; southeasterly one-half of SW-¼ and that portion of SE-¼ lying W of San Joaquin River; and all lands contiguous thereto to the center of the San Joaquin River; (less 7.58 ac. Highway off W side of SE-¼ as said lands are set forth in Vol. 291 of Records, Page 234, Madera County Recorder's office).

A parcel of land in Section 20, Township 12 South, Range 20 East, Mount Diablo Base and

Meridian, described as beginning at an iron pipe which is S 61° 42′ W, 1400 feet from a pipe on N line of Section 21 which is 674 feet Easterly from NW corner of Section 21; thence N 70° 40′ W, 428.6 feet; thence S 71° 32′ W 192.3 feet; thence S 5° 55′ W, 235.8 feet; thence S 20° 14′ E, 283.1 feet; thence N 50° 14′ E, 667.7 feet to point of beginning.

The Court finds that the above described lands, except that portion of said lands described in Exceptions 1 and 2 of this finding, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are, and were at all of said times, riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owners of said lands, excluding the lands described in Exceptions 1 and 2 hereof, to take, pump, divert and use all of the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. [3673] The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

The court finds that the following portion of the first above described real property, more particularly in this finding set forth and described in

Exception 1 of this finding, did not abut or border upon said San Joaquin River at the time of the filing of plaintiffs' complaint, and does not now abut or border upon said river, and is not now, nor was it at the time of the filing of the plaintiff's complaint, riparian to said San Joaquin River, but that said lands described in Exception 1 of this finding, and the owners thereof now have, and at the time of the filing of plaintiff's complaint had, prescriptive rights to divert and use, by reasonable methods of diversion and use, up to 1025 gallons, per minute, of the surface flow of the waters of said San Joaquin River for the irrigation of crops and other reasonable and beneficial uses upon the lands hereinafter in this finding set forth and described in Exception 1; said prescriptive rights, the court finds, having been obtained by plaintiffs J. E. Cobb and Ruby Cobb, and their predecessors in title and interest, by the continuous, open, notorious and adverse taking, diversion, appropriation and use upon said excepted lands for the irrigation of crops and other reasonable and beneficial uses upon said excepted lands under claim of right thereto of up to 1025 gallons, per minute, of said waters of said San Joaquin River, by means of pumping said waters directly from said river and conveying the same by means of ditches, pipes and conduits to and for said uses on said lands described in Exception 1 hereof, for a period of 14 years prior to filing the above entitled action. That all of said water so diverted and used on said excepted lands was

at all said times, and now is, reasonably necessary for said [3674] uses, and at all said times was, and now is, taken by reasonable methods of diversion and use.

Exception 1.

All that portion of the southeasterly one-half of SW-¼ of said Section 16, Township 12 South, Range 20 East, M.D.B. & M.

Exception 2.

A parcel of land in Section 20, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, described as beginning at an iron pipe which is S 61° 42′ W, 1400 feet from a pipe on N line of Section 21 which is 674 feet Easterly from NW corner of Section 21, thence N 70° 40′ W, 428.6 feet; thence S 71° 32′ W, 192.3 feet; thence S 5° 55′ W, 235.8 feet; thence S 20° 14′ E, 283.1 feet; thence N 50° 14′ E, 667.7 feet to point of beginning.

That said above described property, more particularly set forth and described in Exception 2 hereof, did not at the time of the filing of the above entitled action, and does not now abut or border upon said San Joaquin River, and was not then, and is not now, riparian to said river, nor did it or the owner thereof, at the time of filing the within action, have appropriative or prescriptive rights in and to the surface flow of the waters of the said San Joaquin River for use on said lands described in Exception 2 hereof.

Finding 7. That Lawrence D. Cobb was at the time of the filing of the above entitled action, and

now is the owner in fee and entitled to the possession of that certain real property located in the County of Madera, State of California, and described as follows:

In section 17, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lots 1, 2, 3, 4, 5, 6, 7 and 8; and all lands contiguous thereto to the center of the San Joaquin River; less 4.84 ac. Co. Rd.

In Section 20, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lots 2, 9, 10 and 15 and all of Lots 1, 7 and 8; and all lands contiguous thereto to the center of the San Joaquin River; except the area described as follows: A parcel of land in Section 20, Township 12 South, Range 20 East described as beginning at an iron [3675] pipe which is S 61° 42′ W, 1400 feet from a pipe on N line of Section 21 which is 674 feet easterly from NW corner of Section 21; thence N 770° 40′ W, 428.6 feet; thence S 71° 32′ W, 192.3 feet; thence S 5° 55′ W, 235.8 feet; thence S 20° 14′ E, 283.1 feet; thence N 50° 14′ E, 667.7 feet to point of beginning.

In Section 21, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lot 5; NW 2.32 ac. of NW¼ of NW¼; S 37.45 Ac. of Lots 3 and 4; and all lands contiguous thereto to the center of the San Joaquin River.

In Sections 20 and 21, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, the area described as follows: Commencing at iron pipe which is South 50° 14′ West, 667.7 feet from

an iron pipe which is South 61° 42′ West, 1400 feet from an iron pipe on the North line of Section 21, Township 12 South, Range 20 East, which is 674 feet easterly from the Northwest corner of said Section 21; thence South 50° 14′ West, 192.3 feet; thence South 35° 31′ West 532.3 feet; thence East parallel with and 1643.9 feet South of North line of said Section 21 a distance of 3108.7 feet; thence East to the intersection with the Easterly boundary line of Lot 3 of said Section 21; thence northeasterly following the Easterly boundary line of Lots 3 and 1 of said Section 21 to a point which is 1088.3 feet Southerly at right angles from the North line of said Section 21; thence West parallel with and 1088.3 feet South of North line of said Section 21 to an iron pipe; thence West a distance of 3148.8 feet to the point of commencement; and all lands contiguous thereto to the center of the San Joaquin River.

The Court finds that the above described lands, except that portion of said lands described in Exceptions 1 and 2 of this finding, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owner of said lands, excluding the lands described in Exceptions 1 and 2 hereof, to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses

by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes [3676] and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

The court finds that the following portion of the first above described real property, more particularly in this finding set forth and described in Exception 1 of this finding, did not abut or border upon said San Joaquin River at the time of the filing of plaintiffs' complaint, and does not now abut or border upon said river, and is not now, nor was it at the time of the filing of the plaintiffs' complaint, riparian to said San Joaquin River, but that said lands described in Exception 1 of this finding have, and the owner thereof now has, and at the time of the filing of plaintiffs' complaint had, prescriptive rights to divert and use, by reasonable methods of diversion and use, up to 1025 gallons per minute, of the surface flow of the waters of said San Joaquin River for the irrigation of crops and other reasonable and beneficial uses upon the lands hereinafter in this finding set forth and described as Exception 1; said prescriptive rights, the court finds, having been obtained by plaintiff Lawrence D. Cobb and his predecessors in title and interest, by the continuous, open, notorious and adverse taking, diversion, appropriation and use upon said excepted lands

for the irrigation of crops and other reasonable and beneficial uses upon said excepted lands under claim of right thereto of up to 1025 gallons, per minute, of said waters of said San Joaquin River, by means of pumping said waters directly from said river, and conveying the same by means of ditches, pipes and conduits to and for said uses on said lands described in Exception 1 hereof, for a period of 14 years prior to the filing of the above entitled action. That all of said water so diverted and used on said excepted lands was at all said [3677] times, and now is, reasonably necessary for said uses, and at all said times was, and now is, taken by reasonable methods of diversion and use.

Exception 1.

In Madera County, all that portion of Lots 1, 2, 7 and 8 in the NE-¼ of Section 20, Township 12 South, Range 20 East, M.D.B. & M., according to the United States Government Township Plats, described as follows:

Beginning at an iron pipe which is S 50° 14′ W, 667.7 feet from an iron pipe which is S 61° 42′ W, 1400 feet from an iron pipe on the N line of Section 21, Township 12 South, Range 20 East, which is 674 feet easterly from the NW corner of said Section 21; thence S 50° 14′ W, 192.3 feet; thence S 35° 31′ W, 532.3 feet; thence east parallel with and 1643.9 feet south of the N line of said Section 20, to a point on the E line thereof; thence along said E line, N 555.6 feet; thence west parallel

with and 1088.3 feet south of the N line of said Section 20 to the point of beginning.

Said land being the same land as shown on Exhibit 1 hereof lying in the NE-¼ of Section 20, Township 12 South, Range 20 East, M.D.B. & M., and within the dotted triangle of Exhibit 1 of these findings.

Exception 2.

Section 17, Township 12 South, Range 20 East, M.D.B. & M., Lots 1, 2, 3, 4, 5, 6, 7 and 8.

That said property more particularly set forth and described in Exception 2 hereof, did not, at the time of the filing of the above entitled action, and does not now, abut or border upon said San Joaquin River, and was not then, and is not now, riparian to said river, nor did it or the owner thereof, at the time of filing the within action, have appropriative or prescriptive rights in and to the surface flow of the waters of said San Joaquin River for use on said lands described in Exception 2 hereof.

Finding 8. The court finds that Marjorie Sims is and was at the time of the filing of the above entitled action, and now is the owner in fee and entitled to the possession of the following described lands in the County of Fresno, State of California: [3678]

Lot 16, Section 9, Township 12 South, Range 20 East, Mount Diablo Base and Meridian; and all lands contiguous thereto to the center of the San Joaquin River.

W½ of SW¼ of NW¼; SW¼ of NW¼ of

NW¼, Section 15, Township 12 South, Range 20 East, Mount Diablo Base and Meridian; and all lands contiguous thereto to the center of the San Joaquin River.

In Section 16, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lot 7; portion of Lot 6 described as: Commencing at NE corner of said lot; thence S 20 rds; thence W 40 rds; thence S 20 rds; thence W to U.S. Seg. line; thence northwesterly to N line of said lot; thence E to commencement; and all lands contiguous thereto to the center of the San Joaquin River; less S 12 rds frontage on County Road, running E from SW corner of said tract; also less portions of Lots 6 and 7, lying W of County Road.

In Section 16, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, portion of Government Lots 6 and 7 in NE¼, lying W of road; and all lands contiguous thereto to the center of the San Joaquin River; less any portion lying S of a line drawn 120 rds S of and parallel to N line of Section 16.

The court finds that the above described lands, except that portion of said lands described in Exception 1 of this finding, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owner of said lands, excluding the lands described in Exception 1 hereof, to take, pump,

divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, [3679] are hereinafter described and defined.

The court finds that the following portion of the first above described real property, more particularly in this finding set forth and described in Exception 1 of this finding, did not abut or border upon said San Joaquin River at the time of the filing of plaintiffs' complaint, and does not now abut or border upon said river, and is not now, and was not at the time of the filing of the plaintiffs' complaint, riparian to said San Joaquin River, but that said lands described in Exception 1 of this finding have, and the owner thereof now has, and at the time of the filing of plaintiffs' complaint had, appropriative and prescriptive rights to divert and use by reasonable methods of diversion and use up to 1000 gallons per minute of the surface flow of the waters of said San Joaquin River for the irrigation of crops and other reasonable and beneficial uses upon the lands hereinafter in this finding set forth and described in Exception 1; said appropriative and prescriptive rights, the court finds, having been obtained

by plaintiff Marjorie Sims and her predecessors in title and interest, by the continuous, open, notorious and adverse taking, diversion, appropriation and use upon said excepted lands for the irrigation of crops and other reasonable and beneficial uses upon said excepted lands under claim of right thereto of up to 1000 gallons per minute of said waters of said San Joaquin River, by means of pumping said waters directly from said river and conveying the same by means of ditches, pipes and conduits to and for said uses on said lands described in Exception 1 hereof, for a period of 49 years prior to the time of filing the above entitled action. That all of said water so diverted and used on said excepted lands was, and now is, reasonably necessary for said uses, and at all of said times was, and now is taken by reasonable methods of diversion and use. [3680]

Exception 1. W½ of SW¼ of NW¼; SW¼ of NW¼ of NW¼, Section 15, Township 12 South, Range 20 East, Mount Diablo Base and Meridian; Fresno County.

Finding 9. The court finds that Marjorie Sims is and was at the time of the filing of the above entitled action, and now is, the owner in fee and entitled to the possession of the following described real property located in Madera County, State of California:

In Sections 20 and 21, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, commencing at an iron pipe on the N line of Section 21 which is 674.0 ft. easterly from the NW corner

of said Section 21; thence to S 61° 42' W 1131.4 feet; thence E parallel with, and 534.9 feet S of the N line of said Section 21, a distance of 3332.3 feet; thence E to the intersection with the easterly boundary line of Lot 1 of said Section 21; thence Northeasterly following the Easterly boundary line of said Lot 1 to the NE corner of said Lot 1; thence W along the N line of said Secion 21 to an iron pipe; thence W a distance of 3094.0 feet to the point of commencement; and all lands contiguous thereto to the center of the San Joaquin River; less 1.48 ac. in Section 21 to the State of California for road purposes.

The court finds that the above described lands, except that portion of said lands described in Exception 1 of this finding, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owners of said lands, excluding the lands described in Exception 1 hereof, to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of [3681] diversion and use and quantities

of water required therefor, are hereinafter described and defined.

The court finds that the following portion of the first above described real property, more particularly in this finding set forth and described in Exception 1 of this finding, did not abut or border upon said San Joaquin River at the time of the filing of plaintiffs' complaint, and does not now abut or border upon said river, and is not now, nor was it at the time of the filing of the plaintiffs' complaint, riparian to said San Joaquin River, but that said lands described in Exception 1 of this finding have, and the owner thereof now has, and at the time of the filing of plaintiffs' complaint had prescriptive rights to divert and use, by reasonable methods of diversion and use, up to 1025 gallons per minute of the surface flow of the waters of said San Joaquin River for the irrigation of crops and other reasonable and beneficial uses upon the lands hereinafter in this finding set forth and described as Exception 1; said prescriptive rights, the court finds, having been obtained by plaintiff Marjorie Sims and her predecessors in title and interest, by the continuous, open, notorious and adverse taking, diversion, appropriation and use upon said excepted lands for the irrigation of crops and other reasonable and beneficial uses upon said excepted lands under claim of right thereto of up to 1025 gallons per minute of said waters of said San Joaquin River, by means of pumping said waters directly from said river and conveying the same by means of ditches, pipes

and conduits to and for said uses on said lnds described in Exception 1 hereof, for a perid of 25 years prior to the time of the filing o the above entitled action. That all of said water so diverted and used on said excepted lands was at all said times and now is, reasonably necessary for said uses, and at all said times was, and now is, [3682] taken by reasonable methods of dversion and use.

Exception 1.

That portion of the lands hereinabove lescribed in this said paragraph 9 of these findings, lying in Section 20 Township 12 South, Range 20 East, M.D.B. & M., Madera County.

Finding 10. The court finds that Leslie L. Howard also known as L. L. Howard and Alna Howard, were at the time of the filing of the above entitled action, and now are, the owners in fee and entitled to the possession of the following described real property located in the County of Madera, State of California:

In Section 30, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lot 12, also all that land lying between the westerly line of said lot and the San Joaquin River; Lots 7 and 9 of Walker Ranch; and that portion of Lot 3 of Walker Ranch containing 6.62 acres described as follows:

Beginning at the northeast corner of Lot 7 of said Walker Ranch thence North 200 feet; thence at right angles West and parallel with the North line of said Lot 7, 1504 feet to a point; thence

at right angles south to Southerly line of said Lot 3, being the line dividing said Lot 3 from Lot 8 of said tract; thence in a Southeasterly direction along the line dividing said Lot 3 from Lot 8 of said tract to the Northwesterly corner of said Lot 7; thence east along the North line of said Lot 7 to the point of beginning; and all lands [3683] contiguous thereto to the center of the San Joaquin River. All above Walker Ranch Lots as shown on "Map of Walker Ranch" recorded May 12, 1919, in Book 4, pages 51 and 52 of maps, Madera County Records.

Also right of way over a strip of land 30 feet wide off of and over West side of Lot 5 in Section 30, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, extending from Bluff to the River Northwesterly and Southeasterly through said Lot 5; along river to San Joaquin River leading to said Lot 12, and all lands contiguous thereto to the center of the San Joaquin River.

The court finds that the above described lands at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owners of said lands to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and

use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

Finding 11. The court finds that Robert C. Arnold, also known as "Red" Arnold, became a named party plaintiff in the above entitled action by order of the above entitled court on or about the 20th day of June, 1952, and at said time was and now is the owner in fee and entitled to the possession of the following described real property located in the County of Madera, State of California; and that at the time of the filing of the above entitled complaint, said following described lands were included in the class action [3684] set forth in plaintiffs' complaint:

Parcel No. 1: The SE¼ and the S½ of the NE¼ of Section 33, Township 11 South, Range 20 East, M.D.B. & M.

The SW¼, the S½ of the NW¼, the W½ of the SE¼ and the SW¼ of the NE¼ of Section 34, Township 11 South, Range 20 East, M.D.B. & M. and all that portion of the SE¼ of the NE¼ and the E½ of the SE¼ of Section 34, Township 11 South, Range 20 East, M.D.B. & M., and that portion of Lots 1 to 8 both inclusive, of Section 3, Township 12 South, Range 20 East, M.D.B. & M., lying west of the apparent meandering line constituting the eastern boundary of Par-

cel 26, Fresno Drawing No. 214-204-2290, Exhibit 1 of the Findings.

Parcel No. 2: The N½ of the SW¼ and the SW¼ of SW¼, and Lots 10 and 11 in Section 3; the SE¼ the S½ of NE¼, Lots 1 and 2 in Section 4, all in Township 12 South, Range 20 East, M.D.B. & M., according to United States Government Township Plats.

The court finds that the following particularly described lands, to-wit:

That portion of Lots 1, 2, 3, 6, 7 and 8 of Section 3, Township 12 South, Range 20 East, M.D.B. & M., lying West of the apparent meandering line, constituting the eastern boundary of Parcel 26, Fresno Drawing No. 214-204-2290, Exhibit 1 of the Findings and the N½ of the SW¼; the SW¼ of the SW¼, and Lots 10 and 11 in Section 3, Township 12 South, Range 20 East, M.D.B. & M.

at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owners of said lands to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made

adaptable. The terms [3685] reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined. That the lands of said Robert C. Arnold herein not found to have riparian rights did not, nor did the owner thereof, at the time of the commencement of this action, have appropriative or prescriptive rights to the surface flow of the waters of the San Joaquin River for use thereon.

Finding 12. The court finds that Henry H. Engelman and Emma Engelman are, and were at the time they became named plaintiffs herein, and now are, the owners in fee and entitled to the possession of the following described real property located in the County of Fresno, State of California:

Lots 7 and 8 in Section 8, Township 13 South, Range 18 East of Sycamore Ranch Tract, according to the map thereof recorded July 17, 1912, in Book 8 of Records of Surveys at pages 7 and 8, in the office of the County Recorder of said County, except that portion lying north of a slough, running across said land.

The Court finds that the above described lands, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are, and were at all of said times, riparian to the said San Joaquin River, and as such riparian lands, did and now does, entitle the owners of said lands, to take, pump, divert and use all the water of and from the surface flow of the San

Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined. [3686]

Finding 13. The court finds that C. A. Hawkins, at the time he became a named party plaintiff in the above entitled action, was and is the owner in fee and entitled to the possession of the following described real property located in the County of Fresno, State of California:

Lots 33 to 40 inclusive, and 43 to 46 inclusive, 51 to 54 inclusive, and 59 to 62 inclusive, in Section 17, Township 13 South, Range 19 East, M.D.B. & M., consisting of 396.36 acres.

That none of the real property described in this finding at the time of the filing of the above entitled complaint, did, nor does it now, abut or border upon said San Joaquin River, nor was it then or now riparian thereto, nor did said lands or the owner thereof, at the time of filing the within action, have appropriative or prescriptive rights to the surface flow of the waters of said San Joaquin River for use on said lands.

Finding 14. The court finds that Amelia Ann Holland was, at the time of the filing of the above entitled action, the owner in fee and entitled to the possession of the following described real prop-

erty, but that after the above entitled action was filed, Holland Land & Development Co. became the owner of all of the following described real property and that on or about the 31st day of January, 1952, the above entitled court by its order dated said day substituted Holland Land & Development Co. as a party plaintiff instead of the said Amelia Ann Holland:

That certain real property located in the County of Fresno, State of California, described as follows:

Lot 13, Section 35, Township 11 South, Range 20 East, M.D.B. & MM., and all lands contiguous thereto to the center of the San Joaquin River.

Lots 9 and 10, Section 1, Township 12 South, [3687] Range 20 East, M.D.B. & M., and all lands contiguous thereto to the center of the San Joaquin River.

Lot 11, Section 2, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

Lot 10, Section 2, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River; less 2.78 acres in SW corner of Lot 10, Section 2, Township 12 South, Range 20 East, M.D.B. & M.

Lots 7 to 10 inclusive; Portion of Lot 6, lying West of Canal in Section 29, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

That portion of Government Lot 3 and that portion of Lot 299, Perrin Colony No. 2, lying N and

W of a line described as: Beginning in North line of Section 32, 1811 feet West from Northeast corner thereof, said point being in center of upper San Joaquin Canal; thence following said line South 35° 30′ West 316 feet; thence South 62° 20′ West 130 feet; thence South 31° 23′ West 165 feet; thence South 74° 29′ West 540 feet; thence South 72° 47′ West 600 feet; thence South 67° 39′ West 400 feet; thence leaving said Canal North 80° 20′ West 232 feet to Southerly water edge of San Joaquin River; Section 32, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

Perrin Colony No. 2: Lots 269 to 274, lying West of Canal, Section 28, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

Perrin Colony No. 2: Portion of Lots 273, 274 described as: Beginning at a point 1406.8 feet North 0° 04′ East of corner common to Sections 28, 29, 32, 33; thence North 40° 41′ East 621.5 feet; thence North 28° 04′ East 362.5 feet; thence North 51° 17′ West 100 feet; thence North 71° 34′ West 131.75 feet to a point in center line of Old San Joaquin Canal; thence along center of Canal South 15° 06′ West 352 feet; thence South 40° 16′ West 434.5 feet; thence South 0° 04′ West 224.1 feet to point of beginning, Section 28, Township 12 South, Range 20 East, M.D.B. & M.

Perrin Colony No. 2: Lots 285 to 287; portion

of Lots 288 to 290, lying West of Canal; Section 29, Township 12 South, Range 20 East, M.D.B. & M.

SE¼ of NE¼, Section 29, and portions west of canal in SW¼ of NW¼, Section 28, NW¼ of SW¼, Section 28, NE¼ of SE¼, Section 29, and SE¼ of SE¼, Section 29, Township 12 South, Range 20 East, M.D.B. & M. [3688]

The court finds that the above described lands, except that portion of said lands described in Exception 1 of this finding, at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands, did, and now does, entitle the owners of said lands, excluding the lands described in Exception 1 hereof, to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

Exception 1.

A. Perrin Colony No. 2: Lots 271 to 274 inclusive, lying west of Canal, Section 28, Township

12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

B. Perrin Colony No. 2: Portion of Lots 273, 274 described as: Beginning at a point 1406.8 feet North 0° 04′ East of corner common to Sections 28, 29, 32, 33; thence North 40° 41′ East 621.5 feet; thence North 28° 04′ East 362.5 feet; thence North 51° 17′ West 100 feet thence North 71° 34′ West 131.75 feet to a point in center line of Old San Joaquin Canal; thence along center of Canal South 15° 06′ West 352 feet; thence South 40° 16′ West 434.5 feet; thence South 0° 04′ West 224.1 feet to point of beginning, Section 28, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

C. Perrin Colony No. 2: Lots 285 to 287; Portion of Lots 288 to 290, lying West of Canal; Section 29, Township 12 South, Range 20 East, Mount Diablo Base & Meridian; and all lands [3689] contiguous thereto to the center of the San Joaquin River.

D. SE-¼ of NE-¼, Section 29, and portions west of canal in SW-¼ of NW-¼, Section 28, NW-¼ of SW-¼, Section 28, NE-¼ of SE-¼, Section 29, and SE-¼ of SE-¼, Section 29, Township 12 South, Range 20 East, M.D.B. & M.

That said land more particularly described in the foregoing Exception 1 of this finding, at the time of the filing of plaintiffs' complaint, did not, and does not now, abut or border upon said San Joa-

quin River, nor was it then, or now, riparian thereto, nor did it or the owner thereof, at the time of filing the within action, have prescriptive or appropriative rights to the surface flow of the waters of said San Joaquin River for use on said land more particularly set forth and described in Exception 1 of this finding.

Finding 15. The court finds that Jesse Frank Martin is and was, at the time he became a named plaintiff herein, the owner in fee and entitled to the possession of the following described real property, located in the County of Madera, State of California:

Parcel I: All of Lot 3, excepting N. 30 acres, Section 8, Township 13 South, Range 18 East, M.D.B. & M., 29.45 acres.

Parcel II: No. 20 acres of Lot 4, less N. 30 feet Co. Rd., Section 8, Township 13 South, Range 18 East, M.D.B. & M., 19.10 acres.

Parcel III: Beginning at a point on W. line of Lot 4 of Section 8 which bears S. 658.53 ft. from NW corner of Lot 4, thence N. 89° 41′ East 1322.98 feet to point on East line of Lot 4 which bears S. 658.83 feet from NE corner of Lot 4, thence S. 541.17 feet, thence N. 81° 53′ West 555 feet, thence N. 67° 12′ West 505 ft., thence North 51° 19′ West 393.20 ft., to a point on West line of Lot 4, thence along West line of Lot 4, North 14.67 feet to point of beginning, reserving West 30 feet road easement; Section 8, Township 13 [3690] South, Range 18 East, M.D.B. & M., 11.16 acres.

Parcel IV: NW¼ of SW¼ (40.09 acres, less West 30 feet Co. Rd.) Section 5, Township 13 South, Range 18 East, M.D.B. & M., 39.19 acres.

Parcel V: S½ of SW¼ of SW¼ (20.40 acres reserving W. & S. 30 feet for public roads) Section 5, Township 13 South, Range 18 East, M.D.B. & M., 19.13 acres.

Parcel VI: SE¼ of NW¼, E½ of E½ of SW¼ of NW¼ (50.57 acres, less S. 20 feet Co. Rd.), Section 5, Township 13 South, Range 18 East, M.D.B. & M., 49.82 acres.

Parcel VII: Lot 1, Section 6, Township 13 South, Range 18 East, M.D.B. & M.

Parcel VIII: SE¼ of SE¼ (77.85 acres less E. 30 ft. Co. Rd.) Section 6, Township 13 South, Range 18 East, M.D.B. & M., 76.95 acres.

Parcel IX: Lot 1, Section 7, Township 13 South, Range 18 East, M.D.B. & M., 24.50 acres.

The court finds that Parcels I, II, III, VII and IX of the property hereinbefore set forth and described in this said Finding 15, did, at the time of the filing of the above entitled action, at all times mentioned in Plaintiffs' complaint as amended and supplemented, and now do, abut and border upon said San Joaquin River and are riparian to said San Joaquin River, but that Miller & Lux, Inc., the former owners of said Parcels I, II, III, VII and IX, when they sold said land to the plaintiff and his predecessors in title, by contract or deed containing one or more of the reservations quoted in Finding 17, reserved certain water rights in and to said land and that the said Jesse Frank Martin,

[3691] is estopped on the basis of any claim of riparian rights as to said Parcels I, II, III, VII and IX from objecting to, or enjoining, the defendant United States of America and defendant Bureau officials and employees from the storage and diversion of waters at Friant Dam, by means of said Dam and the Friant-Madera Canal and the Friant-Kern Canal.

The Court further finds that Parcels IV, V, VI and VIII of this said finding hereinbefore set forth and described, were not, at the time of the filing of the above entitled complaint, and are not now, riparian to said San Joaquin River.

There was no evidence introduced as to whether the owner of said lands in this find set forth and described, has appropriative and/or prescriptive rights to the surface flow of the waters of said San Joaquin River for use on said lands, and the Court makes no finding in this regard. [3692]

Finding 16. The Court finds that plaintiff Carl Harry Johnson, at the time he became a named party plaintiff herein, was and now is the owner in fee and entitled to the possession of the following described lands located in the County of Madera, State of California, and more particularly described as follows:

NW-¼ of the NE-¼ of Section 6, Township 13 South, Range 18 East, M.D.B. & M., less the north 30 feet for county road, containing 39.13 acres.

All that portion of the E-½ of the SW-¼ of NE-¼ described as: Beginning at a point which bears north 580 feet from the southeast corner of

the SW-¼ of the NE-¼ of Section 6, thence northerly 60° 62½′ west, 707.50 feet, thence north 485.30 feet, thence along the north line of the S-½ of the N-½ of Section 6, South 89° 58′ East, 660 feet, to the northeast corner of the SW-¼ of the NE-¼ of Section 6, thence south 740.32 feet to point of beginning. Containing 9.28 acres.

All that portion of the N-½ of the NW-¼ of Section 6 lying east of the County road to Skaggs Bridge, containing 37.69 acres.

The Court finds that none of the above described lands set forth in this finding, at the time of filing the above entitled action, abutted or bordered, and do not now abut or border, upon said San Joaquin River, nor do said lands, or the said plaintiff as owner thereof, have any riparian rights to use the surface flow of the waters of said San Joaquin River on said lands described in this finding. There was no evidence introduced as to whether any of the lands in this finding have appropriative and/or prescriptive rights to the surface flow of the waters of said San Joaquin River for use on said lands, and the Court makes no finding in this regard.

Finding 17. The Court finds that those certain lands located in the counties of Madera and Fresno, State of California, and designated by the following Parcel numbers, [3693] 118, 121, 134, 135, 137, 138, 141, 143A, 143B, 144, 146, 148, 151, 154A, 154B, 155, 158, 163, 164, 165, 167, 172, 176, 177, 178, 181, 182, 183, 187A, 187B, 190, 191, 192, 197, 198A, 198B, 198C, 199, 204, 206, 207, 209 and 210

of Exhibit 1 of these findings were formerly owned by Miller & Lux, Inc., and were sold by Miller & Lux, Inc., to the present owners of said above described parcels of land in this finding set forth or to their predecessors in title, by deeds or contracts containing one or more of the following clauses reserving to Miller & Lux, Inc. water rights appurtenant to said parcels of land in this said finding above enumerated and described:

Clause a.

"All water rights and riparian rights, if any, appurtenant to said land, except as otherwise expressly herein provided."

Clause c.

"All water rights, if any, whether riparian, appropriative or prescriptive, including the right to receive water released from storage reservoirs on the San Joaquin River."

Clause e.

"* * * the party of the second part waives any right which he may have to object to the storage and/or impounding of the waters of the San Joaquin River, or its tributaries, by the party of the first part, or by the San Joaquin River Water Storage District or by any public district or private company, to which the party of the first part may or has granted the right to store said waters, and the party of the second part hereby expressly consents to said storage without limit, and relinquishes any right to receive water released from said storage; the party of the second part also waives and relinquishes any right which he may

have to object to the said Water Storage District, and/or the party of the first part, and its assigns, diverting the waters of the said San Joaquin River at any point or points thereon, to riparian or non-riparian lands, within or without the watershed; said right of storage and said right to divert the waters of said river shall [3694] be considered as an easement in and shall bind said land, regardless of the ownership thereof."

Clause f.

"This conveyance is made on condition that the riparian rights of the land herein conveyed shall always remain and be exercised subject and subordinate to the water rights of the party of the first part, its successors, subsidiary and affiliated companies (including mutual water companies in which the party of the first part owns stock), whether such water rights be riparian, appropriative or prescriptive, to the end that the party of the first part, its successors, subsidiary and affiliated companies may use, enjoy and transfer said water rights, including the right to contract for or permit storage on the upper reaches of the San Joaquin River, without let or hindrance from the parties of the second part, their heirs and assigns. This covenant and conditions shall not be construed as an extinguishment of the riparian rights of the land herein conveyed, but as an estoppel in favor of the party of the first part, its successors, subsidiary and affiliated companies, against the parties of the second part, their heirs and assigns to the extent herein provided."

Clause g.

"The land herein conveyed is part of a larger tract of land belonging to the Grantor bordering on a natural stream and watercourse and this conveyance shall in no way affect the riparian rights of the remainder of said tract of land retained and owned by the Grantor, but such riparian rights shall be preserved and be unaffected by this conveyance."

Clause g-2.

"In case said land is part of a larger tract of land belonging to the Seller, and the sale thereof shall separate the balance of the land owned by the Seller from any stream or watercourse, such separation shall in no way affect the riparian rights of the land so retained by the Seller, but such riparian rights shall be preserved and be unaffected by such sale."

Clause i.

"It is further understood that this conveyance is made on the express condition that the grantee, for and on behalf of himself, his heirs and assigns, waives and relinquishes any right which he may have to object to the storage and/or impounding of the waters of the San Joaquin River, or its tributaries, by grantor, or by any public or semi-public district or private company to which the grantor may or has granted the right to store said waters and [3695] grantee hereby expressly consents to said storage without limit, and relinquishes any right to receive water released from said storage; grantee also relinquishes and waives any right

he may have to object to grantor and/or its assigns or successors diverting waters of the San Joaquin River at any point or points thereon, to riparian or non-riparian lands, within or without the watershed of said River; said right of storage and said right to divert the waters of said River shall be considered as an easement in and shall bind the land herein conveyed, regardless of ownership."

Clause j.

"The right to conduct or carry excess or waste water from any irrigation canal owned by Grantor, the San Joaquin & Kings River Canal & Irrigation Company, Incorporated, or the San Luis Canal Company, a mutual water company, across the land herein conveyed, and Grantee shall not acquire any right in or to said waters, and any use which Grantee shall make of said water shall be deemed to be permissive and not under claim of right."

Clause k.

This Conveyance is made subject to: "That certain indenture dated the 14th day of September, 1939, between Miller & Lux Incorporated, a corporation, and Gravelly Ford Canal Company, as Grantors, and the United States of America, as Grantee, wherein, among other things, said Grantors conveyed to said Grantee certain of Grantor's rights in and to the waters of the San Joaquin River, and in and to the use thereof, including the right against said Grantors and the lands and other properties described in said conveyance to

perpetually divert, store and use said water within and without the watershed of said river. The lands herein conveyed are described in said conveyance to the United States. Said deed of conveyance was recorded on September 18, 1939, in the office of the County Recorder of each of the following Counties, as follows: in Fresno County, California, in Vol. 1810 of Official Records, at page 25; in Madera County, California, in Vol. 247 of Official Records, at page 88; in Merced County, California, in Vol. 623 of Official Records, at page 410; in Stanislaus County, California, in Vol. 703 of Official Records, at page 1."

Clause 1.

"That certain contract between the United States of America and The San Joaquin & Kings River Canal & Irrigation Company, Incorporated, the Columbia Canal Company, the San Luis Canal Company and the Firebaugh Canal Company for the exchange of water between said companies and the United States, which contract was recorded on September 18, 1939, [3696] in the office of the County Recorder of each of the following Counties as follows: in Fresno County, California, in Vol. 1810, of Official Records, at page 50; in Madera County, California, in Vol. 247 of Official Records, at page 113; in Merced County, California, in Vol. 623 of Official Records, at page 417; in Stanislaus County, California, in Vol. 704 of Official Records, at page 1. Attached to and made a part of said contract is an instrument wherein and whereby Grantor herein disclaims any interest

in the waters to be stored and diverted by the United States pursuant to the terms of said contract and consents, as a stockholder, to the companies parties to said contract executing the same."

Clause m.

"All other contracts and conveyances of record relating to or affecting water rights of land herein conveyed."

Clause n.

"That until Grantor or the United States of America desires to change the place of use of waters of the San Joaquin River now diverted or permitted to flow upon the lands herein conveyed, the United States or Grantor may divert or cause to be diverted from the San Joaquin River or permit to flow upon said lands for the irrigation thereof, in the customary manner, the quantity of water heretofore applied according to past usage. Grantee shall acquire no right, title or interest in or to said water or the use thereof by virtue of said application of said water to said lands."

Clause o.

"The right and title to all water being beneath the surface of the above described land, excepting so much of said water as the party of the second part may develop upon said premises for exclusive use thereupon, and upon any adjacent land not to exceed 160 acres."

Clause p.

"The right and title to all waters being beneath the surface of the above described land, excepting

so much of said water as the party of the second part may develop upon said premises for exclusive use thereupon."

Clause q.

"All water rights, if any, whether riparian, appropriative or prescriptive, including the right to receive water released from storage reservoirs on the San Joaquin River. The parties of the second part, their heirs, successors and assigns waive the [3697] right to object to the storage or diversion of the waters of the San Joaquin River by party of the first part, or its successors and assigns."

Clause r.

"Grantee waives and relinquishes any right which he may have to object to the storage and/or impounding of the waters of the San Joaquin River, or its tributaries, by the Grantor, or by the United States, or any agency thereof, or by any public or semi-public district or private company to which the Grantor may or has granted the right to store said waters, and the Grantee hereby expressly consents to said storage without limit, and relinquishes any right to receive water released from said storage; the Grantee also relinquishes and waives any right he may have to object to the Grantor and/or its assigns or successors diverting the waters of the San Joaquin River at any point or points thereon, to riparian or non-riparian lands, within or without the watershed of said River; said rights of storage and said right to divert the waters of said River shall be considered as an

easement in and shall bind the land herein conveyed, regardless of ownership."

Clause s.

"It is further understood and agreed that the Grantee waives any right which she may have to object to the storage and/or impounding of the waters of the San Joaquin River, or its tributaries, by the Grantor, or by the United States or any agency thereof, by any public district or private company to which the Grantor may or has granted the right to store said waters, and the Grantee hereby expressly consents to said storage without limit, and relinquishes any right to receive water released from said storage; the Grantee also relinquishes and waives any right she may have to object to the Grantor and its assigns diverting the waters of the said San Joaquin River at any point, or points thereon, to riparian or non-riparian lands, within or without the watershed of said river; said right of storage and said right to divert the waters of said river shall be considered as an easement in and shall bind said land regardless of the ownership thereof."

Clause t.

"It is further covenanted and agreed, and this conveyance is made on condition that the party of the second part waives any right which he may have to object to the storage and/or impounding of the waters of the San Joaquin River, or its tributaries, by the party of the first part, or by the San Joaquin River Wate Storage District, or

by any public district or private company to which the party of [3698] the first part may or has granted the right to store said waters, and the party of the second part hereby expressly consents to said storage without limit, and relinquishes any right to receive water released from said storage; the party of the second part also waives and relinquishes any right which he may have to object to the said Water Storage District, and/or the party of the first part and its assigns, diverting the waters of the San Joaquin River at any point or points thereon, to riparian lands within or without the watershed; said right of storage and said right to divert the waters of said river shall be considered as an easement in and shall bind said land, regardless of the ownership thereof."

Clause u.

"The right and title to all waters being beneath the surface of the above described land, excepting so much of said water as the party of the second part may develop upon said premises for exclusive use thereupon, and upon any adjoining land not to exceed 160 acres."

The court finds that the following parcels of land hereinabove in this finding enumerated and designated by the following parcel numbers on Exhibit 1 of these findings (in some cases the parcels being divided into tracts), contain the following Water Right Reservation clauses hereinbefore and in this finding listed by alphabetical letters "a" to "u": [3699]

Parcel Number (Exhibit 1.)	Tract or Parcel	Water Right Reservation Clauses
118	————	f,g.
121	Tract 1*	c,e.
121	Tract 2*	a,u.
121	Tract 3*	a,p.
134	————*	c,r,g.
135	Parcels 1 & 2*	c,g,s.
137	————*	c,g,s.
138	Tract 1 contains Parcels 1, 2 & 3*	c.
138	Tract 2*	c,g,r.
141	Parcels 1 & 2*	f,g.
143-A	Tract 1	f,g.
143-A	Tract 2	f,g.
143-B	Tract 1	f,g.
144	Parcel 1	f,g.
144	Parcel 2	c,e.
146	————*	f,g.
148	————	f,g.
151	————	c,g,s.
154-A	————	f,g.
154-B	————	f,g.
155	————	f,g.
158	————	f,g.
163	————	f,g.
164	————	c,g.
165	————*	a.
167	————	f,g.
172	————*	a.
176	Tract 1*	a.
176	Tract 2*	c.t.
177	————	f,g.
178	Tract 1*	a,g-2,p.
178	Tract 2	a.
181	————	f,g.
182	Tract 1*	a,p.
182	Tract 2*	c,g.
183	E½ NW¼ SE¼	a.
183	W½ NW¼ SE¼	f,g.

Parcel Number (Exhibit 1.)	Tract or Parcel	Water Right Reservation Clauses
183	W½ Lot	f,g.
187-A	———	c,g,j,k.
187-B	———	l,m,n.
190	———	c,e,g.
191	———*	f,g.
192	———*	q.
197	———*	c,g,s.
198-A	Parcels 1, 2, & 3*	c,g,r.
198-B	Parcels 1, 2, & 3*	c,g,r.
198-C	Parcels 1, 2, & 3*	c,g,r.
199	———	f,g.
204	———*	c,g,r.
206	———	f,g.
207	———	f,g.
209	———	f,g.
210	———	c,e.

The court further finds that Miller & Lux, Inc. and its affiliated or subsidiary companies, by the hereinafter mentioned contracts, prior to filing of the above entitled action, assigned the reserved water rights herein above enumerated to the defendant United States of America.

Finding 17-A. The court finds that the United States entered into contracts of and concerning the right to use certain waters of the San Joaquin River prior to the commencement of the within action. The grantors, dates, and recording data on said contracts being as follows, viz: Miller & Lux, Inc. and affiliated or subsidiary companies "exchange contract" dated July 27, 1939 recorded in

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*Data taken from photostatic copy of deed introduced by Government (Defendant Officials' Exhibit C).

Book 623 at Page 417 of Official Records of Merced County; Miller & Lux "purchase contract" dated July 27, 1939 recorded in Book 623 at Page 364 Official Records of Merced County, followed by a deed from Miller & Lux and affiliated companies recorded in Book 623, Page 410 Official Records of Merced County; Edison Securities Company dated September 5, 1944 recorded in Volume 2227 at Page 107 Official Records of Fresno County and deed recorded at Volume 2249, Page 202 Official Records of Fresno County; Chowchilla Farms, Inc. contract dated October 2, 1939 recorded Volume 627, Page 59 Official Records of Merced County, and deed recorded in [3701] Volume 627, Page 104 Official Records of Merced County; Nell C. Hansen contract dated April 13, 1944 recorded in Volume 776 Page 161 Official Records of Merced County and deed recorded in Volume 778 Page 475 Official Records of Merced County; Martin Erreca and Marie Louise Erreca contract dated April 13, 1944 recorded in Volume 777 Page 225 Official Records of Merced County, and deed recorded in Volume 780, Page 220 Official Records of Merced County; C. A. Crane and others contract dated September 25, 1943 recorded in Volume 764 Page 326 Official Records of Merced County and deed recorded in Volume 770 at Page 157 Official Records of Merced County; George S. Bloss contract dated May 25, 1943 recorded in Volume 754 Page 308 Official Records of Merced County and deed recorded in Volume 755 page 279 Official Records of Merced County;

George J. Hatfield and others contract dated August 13, 1943 recorded in Volume 755 Page 338 Official Records of Merced County; A. J. Turner contract dated November 13, 1943 recorded in Volume 762 Page 461 Official Records Merced County and deed recorded in Volume 768 Page 270 Official Records of Merced County; Charles S. Howard Company contract dated August 14, 1945 recorded in Volume 817 Page 35 Official Records of Merced County and deed recorded in Volume 819 Page 349 of Official Records of Merced County.

That, except for the diversions made on the parcels of land described in Finding 17 hereof, all of the surface diversions and rights thereto, made by the grantors in said contracts, of waters of the San Joaquin River, were made at or downstream from Gravelly Ford, and that the change from such points of diversion to Friant and change of places of use and purposes of use, as threatened and practiced by the defendants will result in great and irreparable and [3702] continuing injury to the plaintiffs and the members of their class and to each of them, unless and until the construction and operation of the plan of physical solution hereinafter and in the Judgment herein provided.

Neither the United States nor the other defendants nor any of them by said contracts or deeds or any of them mentioned in this finding acquired any right as against the plaintiffs and the members of their class or any of them, who were not parties to such contracts or who did not take land

subject to any of the reservations made in Finding Number 17 hereof, to impound, store, or divert the waters of the San Joaquin River at Friant Dam.

Particular reference is made to the discussion of the contracts herein and in Findings Number 17 and 18 contained in the included opinion annexed hereto. [3703]

Finding 18. The court finds that at the time of the filing of the above entitled action or during the course of the trial herein, the owners or former owners of those certain lands located in the Counties of Madera and Fresno, State of California, and designated as Parcels 1, 2, 5, 6, 9, 10, 11, 13, 15, 16, 17, 18, 19, 21, 24, 25, 31, 32, 33, 34, 36, 38, 43, 44A, 45, 47, 52, 53, 54, 56, 57, 61, 64, 65, 66, 67, 69, 73, 74, 75, 76, 77, 78, 79, 81, 84, 85, 90, 92, 99B, 102A, 102B, 103, 104, 108, 109, 113, 114, 115, 120, 122, 123, 125, 126, 127, 128, 129, 130, 132, 133, 136, 139, 156, 159, 161, 162, 169A, 169B, 171, 173, 175, 179, 185, 186, 188, 189, 193, 194, 195, 200, 201, 202, 203, 205, 208C, 211, 212, 214 and 215 of Exhibit 1 of these findings had or have executed contracts with the defendant United States of America, for adjustment of water rights appurtenant to said above numbered and described parcels of lands set forth in this finding between Friant Dam and the vicinity of Gravelly Ford, which said contracts contain, among others, the following provisions or "provisions substantially similar," affecting the water rights of the owners of said parcels of land in and to the waters of said San Joaquin River.

Provision One

United States Control of the River

8. The United States may so construct, control, operate, utilize, and maintain Friant Dam and any other dam or dams or works whatsoever as to interfere with, direct, and/or control the flow of the River, its tributaries, branch channels, and sloughs, as the United States may at any time and from time to time determine and likewise use and/or divert within or without the watershed of the River and change the place or places of use and/or change the point or points of diversion and/or the purpose or purposes of use of any of the water of the River at any time and from time to time as it may determine, except only as stated in the next succeeding Article hereof, and except as in this contract [3704] stated, the Contracting Owners, jointly and severally, fully and in all respects release the United States, its officers, agents, and employees from all claims for taking and utilizing the rights, privileges and easements in this contract referred to, whether such claims have heretofore accrued or may hereafter accrue.

Provision Two

Provision for Live Stream

9. The United States recognizes that the Contracting Owners have certain rights to the use of water from, or influenced by, the River on or in connection with said land, either by appropriation, or by prescription, or as owners of land overlying

an underground water supply whether from an underground stream or from percolating water, or as owners of land riparian to the River, or otherwise, and in full satisfaction of said water rights howsoever acquired, claimed, or enjoyed the United States will permit water to pass by or through Friant Dam into the River, which water, together with accretions to the River from all sources whatsoever, will maintain a live stream in the River at the control point hereinafter defined.

Provision Three

How Owner May Divert Water

11. The United States does not and will not, so far as it and its successors and assigns are concerned, object to any reasonable beneficial use of the water of the River for irrigation and/or domestic purposes exclusively upon the said land, provided that water to supply such beneficial use or uses shall be taken only from water in the River at a point or at points upon, adjacent to, or opposite said land, or at a point or at points upon said land from underground sources.

Provision Four

No Water or Water Rights to be Sold by Contracting Owner

15. The Contracting Owners shall not sell, or attempt to sell or convey any water or water rights, or interest therein, from any source whatever, claimed to be parcel of or attached or appurtenant

to or for use upon the hereinafter described land or any part thereof, for use elsewhere or upon other land, and any such attempted sale or conveyance shall be void.

Provision Five

Definition of Terms

20. (b) "Live stream": any stream of water of [3705] not less than five (5) cubic feet of water per second flowing by force of gravity in an open channel:

(c) "Control point": a point in any channel of the river where a live stream, as herein defined, is at any time flowing or would most likely flow, where such channel intersects the most boundary line of the said land extended.

The "control point" is a point on the River near the land involved and is generally at the point where the downstream boundary of the land involved would intersect the River if such boundary was extended to the River.

In addition to the above provisions some of the above mentioned contracts provide for cash consideration for the execution of said contracts, further consideration in the form of drilling specified wells, some temporary channelization work in the channel of said San Joaquin River and consent to the use of the water of the river for gravel operations by the owners of certain parcels[1] none of which provi-

[1] Parcels 1, 2, 9, 13, 15 and 120 (Defendants' Ex. A-48-A).

sions in this paragraph of this finding materially affect the rights or modification or waiver of rights resulting from said contracts to the owners of said parcels of land hereinafter and in this finding more particularly set forth and described.

The court finds that neither the United States nor the other defendants, nor any of them, by said contracts by the owners of the above described parcels of land containing the above provisions acquired any right as against the plaintiffs and the members of their class or any of them, who did not sign such contracts, to impound, store or divert the waters of the San Joaquin River at Friant Dam. [3706]

Finding 19. The court finds that that portion of the following numbered parcels of lands (including the lands of the named plaintiffs hereinbefore in these findings found to be riparian) lying within the dashed line (—) of Exhibit 1 of these findings, which said dashed line (—) is more particularly described in Exhibit 2 of these findings (and which said Exhibit 2 is expressly made a part of these findings) at the time of the filing of the above entitled action and at all times prior thereto, did, and now do, abut and border upon said San Joaquin River, and are and were at all of said times riparian to the San Joaquin River, and as such riparian lands did, and now does, entitle the respective owners of each of said parcels of land within said dashed line (—) to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and

use on said respective parcels of said lands within said dashed line (—) and to take, pump, divert and use in the future such amount for said purposes and uses to which said lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined. Said parcels of land hereinbefore in this said finding mentioned are more particularly described and designated on said Exhibit 1 of these findings by the following parcel numbers:

3A, 3B, 4, 7, 8, 12, 14, 20, 22, 23, 26, 27, 28, 29, 30, 35, 40, 41A, 41B, 41C, 42, 48, 49, 50A, 50B, 51, 59, 63, 68, 70, 71, 72, 82, 83A, 83B, 87, 88, 97A, 97B, 100, 101, 106, 131, 140, 145, 147, 149, 150, 152, 153, 157, 160, 168, 208B, 208E and 208F. [3707]

37, 39, 44B, 46A, 46B, 55, 58, 60, 62A, 62B, 80, 86A, 86B, 86C, 89, 91, 93, 94, 95, 96, 98A, 98B, 98C, 99A, 99C, 105, 107, 110, 111, 112, 116, 117, 119, 124, 142, 166, 170A, 170B, 174, 180, 184, 196, 208A, 208D, 208G and 213.

The court further finds that the dashed line (—) hereinabove set forth is the same as the dotted line on Plaintiffs' Exhibit 29.

Finding 20. The court expressly incorporates and makes Exhibit 3 of these findings a part of these findings and further finds that the exterior boundaries set forth in said Exhibit 3 constitute the "Lee Line" and the exterior boundary of the alluvial cone of the San Joaquin River referred to in the Opinion of this court in the above entitled matter dated

February 7, 1956, as supplemented by Supplemental Memorandum After Hearing dated the 11th day of July, 1956, which said Opinion and Supplemental Memorandum After Hearing are hereinafter set forth and expressly made a part of these findings.

Finding 21. The court finds that all of the lands included within the said boundaries of Exhibit 3 of these findings (The Lee Line), have overlying rights, analogous to riparian rights, in and to the underground percolating waters underlying each parcel of said lands, as such underground water was supplied and replenished by the full natural flow of the San Joaquin River prior to any impoundment and diversion thereof at Friant Dam, all as set forth more fully in the opinion of this court annexed hereto and made a part hereof; and that (except where the right thereto has been withheld, waived, limited or granted away by contract, deed or other document) the owner of each said parcel of overlying land within the said "Lee Line" has the right to pump said underlying percolating waters resulting from the full natural flow of said river, for use on each [3708] such respective parcel of overlying land by reasonable methods of diversion and use for reasonable and beneficial uses, and, the right to take, pump and use said waters in the future for said reasonable and beneficial uses to which said land is or may be adaptable by reasonable methods of diversion and use. The terms reasonable and beneficial uses by reasonable methods of diversion and use, and the quantities of water required therefor are hereinafter defined and de-

scribed: That the percolating waters underlying all of the lands described in this paragraph, at all times prior to the filing of the within action and at all times prior to the time the defendants, or any of them, impounded, stored, or diverted any water at or by means of Friant Dam, were supplied, charged, recharged, and replenished, in whole or in substantial part, by percolation and other forces of nature, from a common source, to wit, the full natural flow of the San Joaquin River, prior to the construction of Friant Dam and/or the impoundment, storage, or diversion of any water thereat or thereby by the defendants, or any of them; and, said San Joaquin River would continue to supply, charge, recharge, and replenish, by percolation and other forces of nature, underground water to said lands, in the same manner and to the same extent and amount as aforesaid were it not for the impoundment, storage and diversion of water at and by means of said dam and appurtenant works, as practiced and threatened by the defendants; that the impoundment, storage and diversion of the waters of the San Joaquin River, as practiced by said defendants since the construction and operation of said Friant Dam and appurtenant works, has greatly reduced the amount and supply of percolating waters underlying said lands, thereby greatly and irreparably damaging the owners of said lands, as hereinelsewhere and in said opinion set forth. [3709]

Finding 21-A. That prior to the filing of the within action, and prior to the impoundment and diversion of any of the water of the San Joaquin

River at Friant Dam by the defendants, or any of them, the San Joaquin River was the common source of supply of, and it did supply, all the water used or needed, for agricultural and domestic uses by all of the lands which in these findings are found to be riparian, and all said water was put to reasonable and beneficial uses by reasonable methods of diversion and use.

Finding 21-B. The riparian rights of the lands described as riparian in Findings numbered one (1) through sixteen (16) hereof, and those described as riparian in Finding numbered nineteen (19) hereof, and the overlying rights of the lands described as overlying in Finding numbered twenty-one (21) hereof, are inseparably annexed to and are part and parcel of, each of the respective parcels comprising said lands, and are vested in the respective owners thereof, and are paramount, prior, and superior to any and all rights of any and all of the defendants and each and every one of them to impound, divert, appropriate, or take, by any means or under any claim or color of right, any water of the San Joaquin River at or by means of Friant Dam and its appurtenant works:

That the appropriative and/or prescriptive rights described in Findings numbered 1, 5, 6, 7, 8 and 9 hereof, and all appropriative and/or prescriptive rights within the "Lee Line" which prior to the diversion of water of the San Joaquin River at Friant by the defendants, took the water to satisfy those rights for reasonable and beneficial uses by reasonable means of diversion and use, from either

the surface or percolating waters of the San Joaquin River, are paramount, prior and superior to any and all rights of any and all of the [3710] defendants, and each and every one of them, to impound, divert, appropriate, or take, by any means or under any color or claim of right, any water of or from the San Joaquin River at or by means of Friant Dam.

All of said lands and rights, and each of them, and the owners thereof, and each of them, regardless of the character of the right, i.e., whether riparian, overlying, appropriative or prescriptive, or any of them, or any combination of them, and regardless of the quantity of water to which any individual tract of land, or the owner thereof, or the owner of any such right or rights, may be entitled, have a common right to a common source of supply of water to satisfy and supply said rights, viz: the full natural flow of the San Joaquin River past Friant or its equivalent by way of a physical solution.

Finding 22. The Court finds that the present and past methods of diversion of said surface waters of said San Joaquin River by the owners of the lands set forth and described in the foregoing Findings 1 to 16 inclusive, where the owners of said lands are in these findings found to have riparian, appropriative or prescriptive rights to the surface waters of said river, and by the owners of other lands lying within the dashed line (—) of Exhibit 1 hereof, by pumping, or otherwise diverting surface water directly from said San Joaquin River, and carrying

and distributing said surface water of said river by means of ditches, pipes and conduits to, and on, said lands described in Findings 1 to 16 inclusive found to have riparian, appropriative or prescriptive rights to the use of the waters of said San Joaquin River and to said other lands lying within said dashed line (—) of Exhibit 1 hereof, are reasonable and beneficial methods of diversion [3711] and use of said surface waters of said San Joaquin River for reasonable and beneficial uses as herein elsewhere defined. The Court further finds that the pumping of underground percolating waters from wells located on any of the lands lying within the boundaries of Exhibit 3 of these findings (The Lee Line), and carrying and/or distributing of said pumped waters by means of ditches, pipes and conduits onto said lands and lands adjacent thereto or in the vicinity thereof is a reasonable method of diversion and use of said underground percolating waters underlying the lands described in Exhibit 3 hereof (The Lee Line) for reasonable and beneficial uses as herein elsewhere defined. The use of water pumped from lands within the boundaries of Exhibit 3 (The Lee Line) on lands other than the lands from which the said underground percolating waters are pumped, is an appropriative use and not an overlying use of the said underground percolating waters underlying the lands within the boundaries of Exhibit 3 (The Lee Line), and is a reasonable and beneficial method of diversion and use for reasonable and beneficial uses as herein elsewhere defined.

Finding 23. The Court finds that the past, present and future use of the following amounts of water for (1) consumptive use, (2) crop irrigation requirements, (3) farm delivery requirements, (4) effective precipitation, (5) irrigation efficiency percent, and water used for pre-irrigation purposes, on the lands within the boundaries set forth and described in Exhibit 3 hereof (The "Lee Line"), excepting the lands within Tranquillity Irrigation District, is a reasonable and beneficial use for agricultural purposes of the water of said San Joaquin River by surface diversion or by pumping underground percolating waters from wells lying within the boundaries of Exhibit 3 of these findings (The Lee Line): [3712]

Crop	Consumptive use	Effective Precipitation	Crop Irrigation requirement	Farm Delivery requirement	Irrigation efficiency %
	Acre feet per acre				
Alfalfa	3.42	0.38	3.04	4.05	75
Irrigated pasture	3.75	0.38	3.37	5.20	65
Cotton	2.38	0.38	2.00	2.85	70
Irrigated hay and grain	1.22	0.38	0.84	1.10	75
Truck	2.30	0.38	1.92	2.85	65
Misc. field crops	1.60	0.38	1.22	1.74	70
Deciduous fruit	2.38	0.38	2.00	2.65	75
Citrus & Olives	2.11	0.38	1.73	2.30	75
Grapes	2.53	0.38	2.15	3.10	70
Rice				6.00 to 7.1	

Pre-irrigation by the application of water to land prior to planting is a beneficial use for these crops in addition to the amounts set forth herein.

The court further finds that the terms used in the

heading of the above tabulation have the following meanings:

"(a) Consumptive use is the sum of the volumes of water used by vegetative growth of a given area in transpiration or building of plant tissues, and that evaporated from the adjacent soil. These quantities are considered part of consumptive use regardless of whether the source is from irrigation or rainfall. The sum is normally expressed as acre-inches or acre-feet per acre per year.

"(b) Effective precipitation is that part of the total seasonal precipitation which contributes toward the consumptive use of a crop. Part of the effective portion is used by plant transpiration during the winter season, the remainder is stored in the root zone for subsequent use by plants. The portion of precipitation which is considered ineffective is lost by percolation below the root zone, or is evaporated from the soil surface during the period of no crop growth.

"(c) Crop irrigation requirement is that portion of the consumptive use that must be supplied by irrigation, i.e., the consumptive use minus effective precipitation.

"(d) Irrigation efficiency, which is expressed in percentage, is a measure of that portion of irrigation water delivered to the farm headgate which is utilized as crop irrigation requirement. [3713]

"(e) Farm delivery requirement is that quantity of water, delivered to the farm headgate, which is required to bring a crop to maturity. It includes crop irrigation requirement and economically unavoidable losses due to application."

The court further finds that the "effective precipitation" and "irrigation efficiency percent" on the lands within the boundaries of the "Lee Line" and within the City of Fresno and the adjacent metropolitan areas served now or in the future by the City of Fresno's municipal water department are as above set forth.

The court further finds that the use of water for other than agricultural purposes, to-wit, the use of water by human beings for drinking, bathing, household, household garden uses, evaporative and re-refrigerated air conditioning and other domestic uses and for manufacturing and other municipal uses up to an annual average of 339 gallons per person per day and the use of water for drinking and bathing by cattle and other animals and poultry is a reasonable and beneficial use within the said "Lee Line" and within the City of Fresno and adjacent metropolitan areas served or in the future to be served by the City of Fresno's municipal water department and within the Tranquillity Irrigation District.

The court further finds that in extremely dry years or years of little rainfall and on parcels of land within the boundaries of the "Lee Line" upon which the soil is loose and porous or consists principally of sand and gravel, the use of water for irrigation, domestic, municipal and agricultural uses in excess of the amounts set forth in the above table may also constitute reasonable and beneficial uses of the surface waters of the San Joaquin River or the waters pumped from the underground percolating

waters originating from the San Joaquin River within the boundaries of [3714] said "Lee Line". The court's jurisdiction to change the amounts of reasonable and beneficial use upon appropriate showing therefor is retained.

Finding 24. The court finds that a "cubic foot per second", also called a "second-foot", is the rate of discharge flowing in a channel of a rectangular cross-section one foot wide and one foot deep at an average velocity of one foot per second. Water flowing at the rate of one cubic foot per second for 24 hours will produce a volume of water equal to approximately 2 feet in depth covering one acre, or two acre-feet.

Finding 25. The court finds that the full natural flow of the San Joaquin River past Friant is necessary to satisfy the rights to water of the plaintiffs and the members of their class, as such rights and the lands in connection therewith are described in Findings numbered 1 to 16 inclusive, 19, 21 and 21-B hereof, unless and until a physical solution as hereinafter described is constructed and operated by the defendants;

The erection, construction, and operation of such plan of physical solution in the manner hereinafter set forth will be a reasonable and beneficial use of the waters of the San Joaquin River by reasonable methods of diversion and use and will not result in the waste of water but will prevent the waste of water and will permit all of the rights to the use of water herein found in Findings 1 to 16, Finding 19, Finding 21 and Finding 21-B hereof to be vested in

the plaintiffs and members of their class and paramount and prior to any right of defendants or any of them, to be fulfilled and satisfied by a small percentage of the full natural flow of the San Joaquin River, and will release for other reasonable and [3715] beneficial uses by reasonable methods of diversion and use, the greater portion of the full natural flow of the San Joaquin River. Reference is made to the annexed opinion for further discussion concerning said physical solution.

The court further finds that the plaintiffs and the members of their class, as herein elsewhere described, are entitled to a judgment of injunction enjoining and restraining the defendants, and each and any and all of them, and the officers, agents, servants, employees, successors and assigns, and each, and any, and all of them from impounding or diverting any of the waters of the San Joaquin River at Friant unless and until the physical solution as hereinafter described is erected and constructed and operated in the manner hereinafter described by the United States of America and by the defendant officials and employees of the United States of America and/or the other defendants or any of them.

Such physical solution shall consist of a series of ten ponds in the natural channel of the San Joaquin river between Friant Dam and Mendota Pool to be created by construction of ten check dams with collapsible gates, said dams to be constructed in accordance with the plans set forth in Exhibit 4 hereof and be approximately located as follows:

Check Dam No. 1: Left abutment bearing South

14° 0′ West from NE corner (projected NE corner), Section 35, Township 11 South, Range 20 East, MDB&M, a distance of 2,480 feet.

Check Dam No. 2: Left abutment bearing North 50° 0′ East from SW corner, Section 2, Township 12 South, Range 20 East, MDB&M, a distance of 2,750 feet.

Check Dam No. 3: Left abutment bearing South 42° [3716] 30′ West from NE corner, Section 21, Township 12 South, Range 20 East, MDB&M, a distance of 710 feet.

Check Dam No. 4: Left abutment bearing North 50° 30′ [3717] West from SE corner, Section 29, Township 12 South, Range 20 East, M.D.B.&M., a distance of 3,670 feet.

Check Dam No. 5: Left abutment bearing South 3° 0′ East from NW corner, Section 30, Township 12 South, Range 20 East, M.D.B.&M., a distance of 2,600 feet.

Check Dam No. 7: Right abutment bearing South 53° 45′ West from NE corner, Section 32 North, Township 12 South, Range 19 East, M.D.B.&M., a distance of 3,440 feet.

Check Dam No. 9: Left abutment bearing North 16° 35′ East from SW corner, Section 3, Township 13 South, Range 18 East, M.D.B.&M., a distance of 1,820 feet.

Check Dam No. 10: Right abutment bearing South 64° 15′ West from NE corner, Section 8, Township 13 South, Range 18 East, M.D.B.&M., a distance of 5,300 feet.

Check Dam No. 11: Left abutment bearing North

79° 31' West from SE corner of Section 2, Township 13 South, Range 17 East, M.D.B.&M., a distance of 1,860 feet.

Check Dam No. 12: Left abutment bearing North 28° 30' East from SW corner, Section 9, Township 13 South, Range 17 East, M.D.B.&M., a distance of 960 feet.

Said dams shall be capable respectively of maintaining water levels in the San Joaquin River when gates are raised at the following minimum depths above existing natural stream bed at the dam, and of ponding the water in San Joaquin River to at least the following distances upstream from said dams:

Check Dam	Minimum Depth of Water at Dam Feet	Minimum Distance Ponded Upstream Miles
1	3.0	1.3
2	3.6	1.2
3	3.5	2.3
4	6.0	2.0
5	6.0	2.0
7	9.0	3.0
9	7.0	3.6
10	5.5	2.7
11	5.0	2.6
12	5.5	3.1

Overflow capacity of overflow sections of all dams with gates raised shall be four hundred (400) second feet. Overflow capacity of combined overflow and non-overflow sections shall be seven hundred fifty

(750) second feet for all dams. Capacity of overflow section with gates of overflow section down shall be 2,000 second feet minimum. When all gates are down, said dams shall be capable of passing (1) all future flood releases from Friant Dam, and (2) scouring releases from Friant Dam of 2,000 to 4,000 second feet with full scouring coverage of the entire bed and banks of ponded areas in the natural bed of the San Joaquin River.

All check dams shall be designed and constructed with treated wooden collapsible gates, concrete deck and abutments, foundation type and operating equipment including traveling Gantry Cranes to raise and lower said collapsible dams of the type shown on Exhibit 4 of these findings.

In "Typical Upstream Elevation" as shown on Exhibit 4 of these findings, the abutment at the left bank of the river at Check Dams 1, 2, 3, 4, 7, 9, 10 and 11, and at right bank at Check Dams 5 and 12, shall be built in steps so as to permit laying of rails to support Gantry Crane when being taken out of service. [3719]

Steel frame Gantry Cranes shall be provided for raising and lowering all collapsible gates. Crane to have sufficient clearance between its tracks and top of gates and walls and tops of abutment steps adjacent to non-overflow section of dams, or to abutment on which Gantry is to be stationed during flood flows. (Gantry Crane to be stationed at left abutment at Check Dams 1, 2, 3, 4, 7, 9, 10 and 11 and right abutment at Check Dams 5 and 12.)

Rails shall be extended on incline from deck of dam to top of abutments mentioned above.

To provide flexibility, the reinforced concrete deck for all dams is to be laid in panels of appropriate width, with joints running up and downstream.

Gantry Cranes are to be self-propelling with gasoline engine power unit of the general type shown on Exhibit 4. They are to be supported on wheels which will run on 40 pound rails. Rails to be placed on concrete deck of each dam and abutment as directed above. Gantry Cranes of the general type shown on Exhibit 4 of these findings shall be individually designed for dams 5, 7, 9, 10, 11 and 12, and for Dams 1 to 4 inclusive. Upon order, after notice and hearing, wider collapsible gates and the raising of the same by hydraulic jacks controlled from the bank, provided they perform the same functions as the Gantry Cranes and gates herein and in this finding set forth and described, may be substituted for the Gantry Cranes and gates herein and in this finding described.

The Check Dams at all points along the river from Friant Dam to Check Dam No. 12, and including all appurtenances, shall be capable of safely passing flood discharges expected to occur in the future in the San Joaquin River below Friant Dam. [3720]

Said collapsible gates of all dams shall be kept raised at all times during the year to ponding position and sufficient water released from Friant Dam at all times during the year to pond the water back of all dams to the distances hereinbefore set forth in this finding, with the constant minimum flow of five

(5) second feet flowing over the last dam downstream from Friant Dam (i.e., Check Dam No. 12) except during (1) flood flows, (2) scouring releases, or (3) when temporary releases of from 4 to 8 days continuous duration in any one month for any other purposes are to be made in excess of the total overflow capacity of said dams. The defendants or any one or more of them may construct dams or Gantry Cranes of more permanent, elaborate or costly types, provided such dams or cranes perform the same functions as the dams of type shown on Exhibit 4 of the findings, and that the substituted dams will safely pass, when raised, the minimum amounts hereinbefore in this finding set forth, will safely pass all flood discharges, and will allow passage of the scouring releases in this finding mentioned to cover the entire bed and banks of ponds, and provided further that the plans therefor have the prior approval of this court, after notice to counsel and hearing. [3721]

Location of said check dams may be constructed short distances downstream if defendants so desire, provided that the depth of ponded water at the herein designated location for each of said check dams and the minimum ponded distance upstream from said locations herein given, remain approximately the same.

In the event the river bottom has degraded at the location of any dam since the survey of the profile of the river shown on Exhibit 4 of these findings it shall be the duty of the defendants to erect the dam to sufficient height so as to pond the water to the

depth hereinabove mentioned at the damsite equal to what the water would have been ponded had the river bottom not degraded since the time of the survey shown on Exhibit 4 of these findings.

Exhibit 4 consists of two pages of photo offset reproductions which are expressly made a part of these findings.

The gates to said dams shall be lowered by defendant United States of America and defendant Bureau officials and employees, and flushing or scouring releases of at least 4,000 second feet for up to 24 hours for each flushing shall be released, by defendant United States and defendant Bureau officials and employees, from Friant Dam in June and August of each year and an additional 24 hour flushing release of at least 2,000 second feet on, or about April 1st of years of subnormal run-off as determined by the Bureau of Reclamation's spring estimates, in order to keep the river bottom and banks free of accumulated silt, fines, algae and organic seal and force additional waters into the underground. Whenever said river bottom and banks are free of or are freed from said accumulated silt, fines, algae and organic seal, said minimum flushing releases may be stopped. [3722]

The times and amounts of scouring releases may be changed from time to time on order of court upon appropriate showing after notice that the same are not needed; and, after the construction of the above described works for a physical solution, upon appropriate showing after notice, the court may modify said plan of physical solution by the require-

ment for additional dams of either stationary or collapsible type or the substitution of one type of dam for another, or otherwise alter said plan and/or operation thereof, as just may require.

All costs of constructing, repairing, replacing and operating said collapsible dams and appurtenances including easement and rights-of-way, and furnishing of water for said ponds shall be borne by the defendant United States of America, provided, however, that defendant districts, or any of them, may advance said costs.

Finding 26. The impoundment and diversion of water at Friant Dam by the defendants as practiced and as threatened to be continued in the future by the defendant United States of America and other defendants will result in great, immediate, irreparable and continuous injury to all of the lands, rights and properties described as riparian or overlying, or both, in Findings 1 to 16 inclusive, 19, and 21 hereof, and to the owners of said rights, and to all the appropriative and prescriptive rights, or either, and the owners thereof, described in Findings 1, 5, 6, 7, 8, 9 and 21-B hereof; which injury will continue and increase and will occur at unpredictable times, unless the full natural flow of the San Joaquin River is permitted to pass Friant Dam, or unless and until the construction and operation of the physical solution hereinafter more fully described.

That such injury will be caused by a greatly reduced flow of water in the bed and natural channel of the [3723] San Joaquin River, which flow is threatened by the defendants to not exceed fifty

thousand (50,000) acre feet per year, to be released by defendants from Friant Dam into the river bed at such times and in such amounts as defendants, or some of them, in their sole discretion, decide, without regard to the time for, or the quantity of, the need of water to fulfill the water rights described in these findings of the plaintiffs, or any of them, or their class, or any of them, or the intervenors Tranquillity Irrigation District and the City of Fresno, or either of them.

That such reduced flow, as so threatened by defendants, will cause the stream as it flows in the natural river bed to meander away from the pumps of those who take water directly by pumping from the river, and at places will cause the stream to disappear entirely, and will generally so lower the water level or cause the stream to meander so that the pumps of those taking water directly from the river, either cannot operate so as to secure any water, or they must be lowered or raised or extended or changed repeatedly, at unpredictable times during the pumping season and throughout the year to obtain any water at all, and said pumps, without such change of location, and in many cases with it, will suck sand into them and destroy the mechanisms thereof and fill the irrigating conduits and ditches with sand, all of which in addition to the great and unpredictable expense of changing pump elevations and locations and repair and renewal or replacement of pumps, and cleaning the sand from irrigating conduits and ditches and pipes, will result in the inability to get water to growing crops when

needed, which in turn will cause failure of crops or the reduction in quality or quantity or both. That such injury has occurred to various of the plaintiffs and members of their class, and [3724] in some instances has caused the abandonment of one type of crop for another, since the commencement of the within suit and the impoundment and diversion of water by the defendants at Friant Dam and as a direct result of such impoundment and diversion.

Finding 26-A. That since the first diversion of water of the San Joaquin River, by means of Friant Dam and its appurtenant works by the defendant United States of America and the other defendants herein, up to the close of the hearings heretofore had in the above entitled action, the water level of the percolating waters lying beneath the overlying lands within the "Lee Line" has dropped substantially—in some places a drop of 100 feet in the last five years—which drop was substantially caused by the impoundment and diversion of waters of the San Joaquin River at Friant by the defendant United States and the other defendants herein; that said lowering of water levels has caused great and irreparable injury to the respective owners of various parcels of said lands by the inability to produce sufficient water from wells to continue the previous crop pattern of such lands and has compelled the abandonment of irrigated crops and of the land for farm purposes other than [3725] dry farming in some instances, and has forced the owners of a great number of wells, if they desired to continue to pump water from wells, to deepen the same, and in

many instances to drill new ones, at great cost, both for the deepening process and for the increased pumping costs; that said lowering of the water levels on said lands, as a result of said impoundment and diversion at Friant as practiced and threatened by said defendants, will continue at a greatly increased rate so as to result in a greatly diminished underground water supply to approximately 250,000 acres of land within said "Lee Line", and so as to ultimately cause the water level in many wells to drop to such a depth that it would be beyond economic limits to pump them for agricultural, irrigation, and/or stock raising purposes on more than 100,000 acres of said overlying lands, all of which will cause great, irreparable, and continuous injury to said lands lying within said "Lee Line" and to the owners of said lands, by compelling the abandonment of all or some of said lands for agricultural purposes, or the change to a less profitable agricultural use, or the increased cost of deepening and pumping wells, or both the latter; that said future injury can be avoided by either permitting the full natural flow of the river to flow past Friant, or can be avoided or minimized by the construction and operation of the physical solution provided herein, within a reasonable time. [3726]

Finding 27. The separately owned parcels of land which are riparian to the San Joaquin River as described in Findings 1-16 inclusive and in Finding 19 and the owners thereof, and the separately owned parcels of land which are overlying the underground and percolating waters of the San Joa-

quin River as described in Finding 21 hereof and the owners thereof, and the owners of prescriptive and/or appropriative rights as described in Findings 1, 5, 6, 7, 8, 9 and in Finding 21-B hereof, and the other owners of lands lying within the "Lee Line" having all or any of such rights or any combination of such rights, are so numerous as to make it impracticable to bring them all before the Court in this or any single action, and, to require each to bring a separate action would result in a multiplicity of actions which would be inequitable and unjust: And the named plaintiffs, on behalf of themselves and all, and each of the above described other persons, and rights and the owners thereof, are seeking in this action to enforce the hereinelsewhere described common right to the common source of supply of water to said lands and rights, viz: the full natural flow of the San Joaquin River past Friant, or its equivalent by way of a physical solution, and to prevent a common injury to all of such lands and rights and the owners thereof, resulting from the storage and/or diversion of water as practiced and threatened by the defendants at Friant Dam in derogation of and injury to said rights as hereinelsewhere set forth; said plaintiffs have adequately represented, and will fairly insure the adequate representation in the future of, all those other persons not named as a party to this suit who own lands with, or who own, riparian, overlying, appropriative, or prescriptive rights or any or all or any combination of them, within the boundaries of the "Lee [3727] Line" to either or both surface and under-

ground water of the San Joaquin River as such rights are described in Findings 1 through 12, inclusion, 14, 19, 21 and 21-B hereof.

The rights of the plaintiffs and their class as in these findings set forth, and the rights of the Tranquillity Irrigation District sought to be enforced by its complaint in intervention and the rights of the City of Fresno by its complaint in intervention, are not adverse to one another, nor are the rights of any of them adverse to each other or to any of the others.

Finding 28. That the watershed of the San Joaquin River lies entirely within the counties of Fresno and Madera and the origin of all of the waters of the San Joaquin River upstream from Mendota is in the counties of Fresno and Madera; that all of the lands within the "Lee Line" and all of the lands within the City of Fresno and the metropolitan area of the City of Fresno which can be conveniently served with water for domestic and municipal purposes in the foreseeable future by the Fresno municipally owned water system, and all of the lands within the Tranquillity Irrigation District, and all of the lands within the Chowchilla Water District and all of the lands within the Madera Irrigation District are within one or the other of said counties, and all are in an area immediately adjacent to the San Joaquin River which can be conveniently supplied with water from said San Joaquin River for all reasonable and beneficial uses of every nature by reasonable methods of diversion and use, and that the inhabitants and property

owners within said areas are entitled, as a matter of fact and statutory and substantive law of California to the full natural flow of the San Joaquin River to satisfy their needs and rights to water [3728] for reasonable and beneficial uses by reasonable methods of diversion and use before any of the water of said river is diverted or stored for diversion out of said counties by means of Friant Dam or the Friant-Kern Canal or otherwise. Nothing in this finding contained alters the riparian, overlying, prescriptive or appropriative rights of plaintiffs and their class, or of Tranquillity Irrigation District or of the City of Fresno, hereinelsewhere set forth."

Finding 29. The Court finds that the construction, storage [3729] and diversion of water of the Kings River at and through Pine Flat Dam as presently practiced and as stated to be the intention to practice in the future by those in control of said dam, will not contribute any substantial quantity of underground water to the area within the "Lee Line" so as to raise the level of the water table and reduce the damage and injury resulting from the impounding and diverting of water at Friant Dam as practiced and threatened by the defendants, which damage and injury is hereinelsewhere described.

Finding 30. That neither the plan of physical solution proposed by the State of California, nor the plan of physical solution proposed by the defendant or other officials of the United States, would supply water at the times or in the quantity suffi-

cient to satisfy the prior and paramount rights of the plaintiffs and or the members of their class or any of them as herein set forth, for their reasonable and beneficial use by reasonable means of diversion and use or at all; and either of said plans, if put into operation, will cause great, immediate, irreparable and continuing injury to all of the lands lying within the "Lee Line" and to the owners thereof, in the manner and nature hereinelsewhere and in the annexed opinion described, that neither said plan of physical solution proposed by the State, nor the defendant or other United States officials, would result in a reasonable and beneficial use of the water of the San Joaquin River by reasonable methods of diversion and use.

Finding 31. That Clyde Spencer as Supervising Engineer, California Projects, United States Bureau of Reclamation Region 2, Martin Blote as Watermaster, United States Bureau of Reclamation and Superintendent of Operations of the Central Valley Project, United States Bureau of Reclamation and Edwin F. Sullivan, Operations Supervisor, United States Bureau [3730] of Reclamation and their predecessors, whether operating under the same titles or not, had and do now have and exercise the management and control of Friant Dam and its appurtenant works and do determine and control the amount and time of impounding of the water thereat as well as the time and release of water to be made from Friant Dam to the river bed, and to the Madera Canal and to the Friant-Kern Canal without the prior approval of such acts by either

the Secretary of the Interior of the United States or the Commissioner of Bureau of Reclamation of the United States or any other official or officials of the United States.

Finding 32. That neither the plaintiffs, nor the members of their class, nor any of them, have any plain, adequate and speedy, or plain, or adequate, or speedy, remedy at law. [3731]

Finding 33. The term "surface flow," and the term "full natural flow," as used in these findings and conclusions and judgment, each means the natural flow of the San Joaquin River past Friant, as it flowed prior to the time of the erection and construction of Friant Dam and prior to the impounding of any water thereat or by means thereof, as adjusted by vested appropriative and/or prescriptive rights, if any, at or above Kerchoff Reservoir, adverse to the rights of the named plaintiffs or the members of their class or any of them, provided, however, that the natural flow as applicable to Tranquillity Irrigation District is as shall be as set forth in Finding 3 of the Findings of Fact on the Complaint in Intervention of the Tranquillity Irrigation District.

Findings of Fact On Complaint In Intervention of Tranquillity Irrigation District

This action having been tried by the court without a jury, the court hereby makes its findings of fact and conclusions of law:

Findings of Fact

Finding 1. The opinion of the above entitled court heretofore filed in the above entitled action

and dated the 7th day of February, 1956, and the Supplemental Memorandum After Hearing, dated the 11th day of July, 1956, together with Exhibits 1 to 5 inclusive, are hereby expressly annexed and made a part of these findings. All findings of fact stated therein are hereby found to be findings of fact of these said findings on Tranquillity Irrigation District's Complaint in Intervention unless specifically contrary to specific findings of fact otherwise herein contained in which case the specific finding shall be deemed the finding of this court. Said Opinion and Supplemental Memorandum After Hearing immediately precede Exhibit 1 of these findings.

Finding 2. The court reincorporates and expressly makes a part of these Findings of Fact, findings 17a, 18 and 20 to 33 inclusive, previously set forth herein on plaintiffs' complaint, except as finding 23 differs from finding 7 hereof.

Finding 3. The court finds that Tranquillity Irrigation District and its landowners, by virtue of either riparian, prescriptive and contractual rights, are entitled to 12% in excess of 1360 second feet of the natural flow of the San Joaquin River measured at White House for use of lands within said District, computed as [3733] follows:

(a) Said 12% over 1360 second feet at White House hereinabove and in this finding mentioned, is based upon the adjusted flow of the San Joaquin River at Friant, which is the flow which would have occurred if there had been no storage back of Friant Dam and no storage behind any other dams up-

stream from Friant Dam on said river or any tributary thereof.

(b) The adjusted river flow for any day at Friant shall be computed by first adding the evaporation from the lake surface, the release to the San Joaquin River, the release to the Friant-Madera Canal and the release to the Friant-Kern Canal and adding to said sum the increase in storage at Millerton Lake or subtracting from said sum the decrease in storage at Millerton Lake, all expressed in cubic feet per second, the result representing inflow into Millerton Lake. To this inflow should be added the increase in storage of Kerckhoff Reservoir of the Pacific Gas & Electric Company, Dam No. 7 of Southern California Edison Co., and in all existing or future upstream reservoirs of Southern California Edison Co. on said San Joaquin River and its tributaries and from this should be deducted the decrease in storage in Kerckhoff Reservoir, Dam No. 7 of said Southern California Edison Co., and of said existing and future upstream reservoirs of Southern California Edison Co. on said San Joaquin River or any of its tributaries, all expressed in cubic feet per second. This shall constitute the adjusted river flow at (below) Friant Dam. [3734]

(c) The computed daily natural inflow into Mendota Pool measured at White House in excess of 1360 cubic feet per second shall then be obtained by subtracting from the adjusted flow at Friant the intervening canal and ditch diversions from the San Joaquin River which would have been made by Gravelly Ford Canal, Aliso Canal, Edison Securities Co., Chowchilla Canal, Columbia Canal and

Lone Willow grass rights if these diversions were being made. There shall also be subtracted "River Loss and Riparian Diversions" as determined by subtracting from the measured actual flow released at Friant, the measured actual flow at White House for the day being considered corrected for delay in river flow referred to in sub-paragraph (d) of this paragraph 4.

The schedule for determining intervening canal and ditch diversions during each month of the year shall be that contained on pages 26 to 37 inclusive of Report No. 3 of the State of California "Definitions of Rights to the Waters of San Joaquin River Proposed for Diversion to Upper San Joaquin Valley dated August, 1936", which said pages 26 to 37 inclusive of Report No. 3 are set forth as Exhibit 5 of these findings and expressly made a part thereof.

(d) 12% of the flow into Mendota Pool as computed above in excess of 1360 cubic feet per second shall then be taken as the amount which Tranquillity Irrigation District and its landowners shall be entitled to divert from Fresno Slough. The date of availability of this water shall be two days later than the date of adjusted river flow at Friant as [3735] hereinabove mentioned in order to correct for delay in river flow between Friant and Mendota Pool.

(e) On days between October 1st and April 15th, when the natural flow of the San Joaquin River measured at White House, as herein computed, is less than 1500 cubic feet per second and between April 16th and September 30th

when the natural flow of said river is less than 3000 cubic feet per second measured at White House and Southern California Edison Co. with the consent of Miller & Lux, Inc., is storing water of Stevenson Creek in Shaver Lake, or at any time when the natural flow of the San Joaquin River measured at White House is less than 3000 cubic feet per second Southern California Edison Co. with the consent of Miller & Lux, Inc., is storing any of the water of said river or tributary thereof in any reservoir on said San Joaquin River or its tributaries, Tranquillity Irrigation District shall be entitled to pump 100 cubic feet per second from Fresno Slough or 12% in excess of 1360 cubic feet per second of the natural flow of the San Joaquin River measured at White House as said natural flow is in this finding hereinbefore computed, which ever is the greater.

(f) No deductions from said 12% of said flow of said river above 1360 second feet as herein determined shall be made on account of any flow of the Kings River whether measured at points on Fresno Slough or any other place.

(g) The right of Tranquillity Irrigation District to said 12% of 1360 second feet of the natural [3736] flow of said river as hereinabove computed shall not be limited by present or future pumping capacity of the Tranquillity Irrigation District from Fresno Slough but shall only be limited by the requirement that said 12% of said waters of said river be used now and in the future for beneficial uses and purposes within said district and by reasonable

methods of diversion as beneficial use and reasonable methods of diversion hereinbefore and in these findings are defined.

Finding 4. As a physical solution for Tranquillity Irrigation District only, defendants may, without charge to Tranquillity Irrigation District, substitute water from the Delta Mendota Canal of equal quality to the natural flow of the San Joaquin River as described in Finding 3, page 66 hereof, for the said natural flow of said San Joaquin River, and Tranquillity Irrigation District shall have the option to pump, without charge, an equal amount of waters originating from the Delta Mendota Canal from Fresno Slough in lieu of the said natural flow of said San Joaquin River.

Finding 6. The court finds that the same physical solution set forth and described in Finding 25 on plaintiffs' complaint, as amended and supplemented, in the above entitled action, should be decreed under Tranquillity Irrigation District's Complaint in Intervention, as amended and supplemented, in order to replenish and supply the underground percolating waters underlying said Tranquillity [3737] Irrigation District within the boundaries of Exhibit 3 of these findings. (The Lee Line.)

Finding 7. The court finds that the past, present and future use of the following amounts of water for (1) consumptive use, (2) crop irrigation requirements, (3) farm delivery requirements, (4) effective precipitation, and (5) irrigation efficiency percent, within the boundaries of Tranquillity Irrigation District either by surface diversion of water

from Fresno Slough (whether originating from said San Joaquin River, or elsewhere) or by pumping underground percolating waters from wells lying within the boundaries of Tranquillity Irrigation District is a reasonable and beneficial use of the water.

Crop	Consumptive use	Effective Precipitation	Crop Irrigation requirement	Farm Delivery requirement (a)	Irrigation efficiency %
	Acre feet per acre				
Alfalfa	2.8	0.2	2.6	3.3	80
Irrigated pasture	3.7	0.2	3.5	4.4	80
Cotton (b)	2.4	0	2.4	3.0	80
Irrigated hay and grain (b)	1.2	0.2	1.0	1.25	80
Misc. field crops and truck	2.0	0	2.0	2.5	80
Rice	5.0	0	5.0	7.1	70
Sugar Beets	2.4	0	2.4	3.0	80

(a) To these values should be added transmission losses in canal system.

(b) Pre-irrigation by the application of water to land prior to planting is a beneficial use for this crop in addition to the amounts set forth.

The court further finds that the "effective precipitation" and "irrigation efficiency percent" on the lands within the boundaries of the Tranquillity Irrigation District are as above set forth. [3738]

Findings of Fact on Complaint in Intervention of City of Fresno.

This action having been tried by the court without a jury, the court hereby makes its findings of fact and conclusions of law: [3739]

Finding 1. The Opinion of the above entitled

court heretofore filed in the above entitled action and dated the 7th day of February, 1956 and the Supplemental Memorandum After Hearing, dated the 11th day of July, 1956 and Exhibits 1 to 5 are hereby expressly annexed and made a part of these findings. All findings of fact stated therein are hereby found to be findings of fact in these said findings on City of Fresno's Compiaint in Intervention, as amended and supplemented, unless specifically contrary to specific findings of fact otherwise herein contained in which case the specific finding shall be deemed the finding of this court. Said Opinion and Supplemental Memorandum After Hearing immediately precede Exhibit 1 of these findings.

Finding 2. The court reincorporates and expressly makes a part of these findings of fact the Findings of Fact 20 to 33 inclusive on plaintiff's complaint as hereinbefore set forth.

Finding 3. The court finds that the total safe yield from the wells of the City of Fresno in the area supplied by the City of Fresno on February 1, 1953, is 30,000 acre feet per year when the San Joaquin River is in full natural flow, or when the physical solution described in Finding No. 25 has been constructed and is in operation in the manner set forth in Finding No. 25, but that said City of Fresno is now pumping in excess of 45,000 acre feet of water per year throughout its municipal water system.

Finding 4. The court finds that eight wells of the City of Fresno are located within the boundaries of Exhibit 3 (The Lee Line). [3740]

Findings of Fact on Complaint in Intervention of State of California.

This action having been tried by the Court without a jury, the Court hereby makes its findings of fact and conclusions of law:

Findings of Fact

Finding 1. The Opinion of the above entitled Court heretofore filed in the above entitled action and dated the 7th day of February, 1956, and the Supplemental Memorandum After Hearing, dated the 11th day of July, 1956, and Exhibits 1 to 5 inclusive, are hereby expressly annexed and made a part of these findings. All findings of fact stated therein are hereby found to be findings of fact in these said findings in State of California's Complaint in Intervention, as amended and supplemented, unless specifically contrary to specific findings of fact otherwise herein contained, in which case the specific finding shall be deemed the finding of this Court. Said Opinion and Supplemental Memorandum After Hearing immediately precede Exhibit 1 of these findings.

Finding 2. The Court reincorporates and expressly makes a part of these findings of fact the Findings of Fact 1 to 33 inclusive on plaintiffs' complaint as hereinbefore set forth.

Conclusions of Law As to Plaintiffs

The Opinion of the above entitled court heretofore filed in the above entitled action and dated the 7th day of February, 1956, the Supplemental Mem-

orandum After Hearing, dated the 11th day of July, 1956, and Exhibits 1 to 5 inclusive of the Findings of Fact herein, are hereby expressly annexed and made a part of [3741] these Conclusions of Law.

Any finding of fact stated in the conclusions of law are nevertheless hereby found to be a finding of fact, even though stated in the conclusions of law.

Any statements or conclusions of law, even though stated in the findings of fact, are nevertheless hereby found to be conclusions of law.

The plaintiffs and members of their class are entitled to judgment declaring their rights to the use of the waters of the San Joaquin River as set forth in said Findings and said Opinion, and forever enjoining the United States of America and each and all of the defendants and their successors and assigns and each and any and all of them, and the agents, servants, employees and officials of each, any and all of them, from storing or diverting any water of the San Joaquin River at or by means of Friant Dam or any of its appurtenant works or canals, provided however, that such injunction shall not go into effect if said defendants or any of them within a reasonable time, at their sole cost and expense, construct, place in operation, operate and maintain the physical solution set forth and described in Finding of Fact No. 25 hereof, and if, in addition thereto, that portion of the natural flow of the San Joaquin River is allowed to enter Mendota Pool in the amounts and in the manner set forth in Finding 3 on the complaint in intervention

of Tranquillity Irrigation District, and continuously allow said Tranquillity Irrigation District to take and divert the natural flow of the San Joaquin River measured at Mendota Pool as set forth in said Finding No. 3, or in lieu thereof to take an equal amount of substituted water originating from the Delta Mendota Canal as provided in Finding No. 4 on said Complaint in [3742] Intervention on Tranquillity Irrigation District.

All other conclusions of law expressed in said Opinion in the above entitled action dated the 7th day of February, 1956, and the Supplemental Memorandum After Hearing dated the 11th day of July, 1956, are hereby adopted as the conclusions of law of this court under plaintiffs' complaint, as amended and supplemented.

Conclusions of Law on Complaint in Intervention of Tranquillity Irrigation District.

The Opinion of the above entitled court heretofore filed in the above entitled action and dated the 7th day of February, 1956, the Supplemental Memorandum After Hearing, dated the 11th day of July, 1956, and Exhibits 1 to 5 inclusive of the Findings of Fact on this Complaint in Intervention, as amended and supplemented, are hereby expressly annexed and made a part of these conclusions of law.

Any finding of fact stated in the conclusions of law are nevertheless hereby found to be a finding of fact, even though stated in the conclusions of law.

Any statements or conclusions of law, even though stated in the findings of fact, are nevertheless hereby found to be conclusions of law.

Tranquillity Irrigation District and the landowners therein are entitled to judgment declaring their rights to the use of the waters of the San Joaquin River as set forth in said Findings and said Opinion, and forever enjoining the United States of America and each and all of the defendants and their successors and assigns, and each, and any, and all of them, and the agents, servants, employees and officials of each, any, and all of them, from storing or diverting any water of the San Joaquin River [3743] at or by means of Friant Dam or any of its appurtenant works or canals, provided however, that such injunction shall not go into effect if said defendants or any of them within a reasonable time, at their sole cost and expense, construct, place in operation, operate and maintain the physical solution set forth and described in Finding of Fact No. 25 hereof, and if, in addition thereto, that portion of the natural flow of the San Joaquin River is allowed to enter Mendota Pool in the amounts and in the manner set forth in Finding 3 on the complaint in intervention of Tranquillity Irrigation District, and continuously allow said Tranquillity Irrigation District to take and divert the natural flow of the San Joaquin River measured at Mendota Pool as set forth in said Finding No. 3, or in lieu thereof to take an equal amount of substituted water originating from the Delta-Mendota Canal as provided in Finding No. 4 of said Complaint in Intervention

of Tranquillity Irrigation District then said injunction shall not go into effect.

The other conclusions of law expressed in said opinion in the above entitled action dated the 7th day of February and the Supplemental Memorandum After Hearing dated the 11th day of July, 1956, are hereby adopted as the conclusions of law of this court under Tranquillity Irrigation District's complaint in Intervention, as amended and supplemented.

Conclusions of Law on Complaint in Intervention of City of Fresno.

The Opinion of the above entitled court heretofore filed [3744] in the above entitled action and dated the 7th day of February, 1956, the Supplemental Memorandum After Hearing, dated the 11th day of July, 1956, and Exhibits 1 to 5 inclusive of the Findings of Fact on this Complaint in Intervention, as amended and supplemented, are hereby expressly annexed and made a part of these conclusions of law.

Any finding of fact stated in the conclusions of law are nevertheless hereby found to be a finding of fact, even though stated in the conclusions of law.

Any statements or conclusions of law, even though stated in the findings of fact, are nevertheless hereby found to be conclusions of law.

The City of Fresno is entitled to judgment declaring its rights to the use of the waters of the San Joaquin River as set forth in said Opinion and said Findings, and in addition to its rights as an

overlying owner as set forth elsewhere in these findings, will, upon constructing the necessary works to bring San Joaquin River surface water to said City from Friant Dam or Friant-Kern canal, subject to the rights of plaintiffs and their class and of Tranquillity Irrigation District, be entitled to an injunction forever enjoining the United States and each and all of the defendants and their successors and assigns, and each, and any, and all of them, and the agents, servants, employees and officials of each, any, and all of them, from diverting or storing for diversion any water of the San Joaquin River at, or by means of, Friant Dam, or any of its appurtenant works or canals, out of the Counties of Fresno and Madera, unless and until said defendants make available to said City of Fresno its water needs for domestic and municipal purposes in excess of 30,000 acre feet per year from Friant Dam or Friant-Kern canal, within Fresno County, at rates then charged for what is now known as Class 1 water for irrigation purposes. [3745]

In the event the City of Fresno drills additional wells in any area annexed to said City since February 1, 1953, or which may be annexed in the future, or which is, or will be, served with water by said City of Fresno for municipal and domestic uses, there shall be added to said 30,000 acre feet the safe annual yield of any additional wells in determining the amount of supplemental water to which said City of Fresno is entitled as aforesaid.

The other conclusions of law expressed in said Opinion in the above entitled action dated the 7th

day of February, 1956, and the Supplemental Memorandum After Hearing dated the 11th day of July, 1956, including the City's right to a declaratory judgment and injunctive relief as set forth in said Opinion and Supplemental Memorandum After Hearing, are hereby adopted as conclusions of law on the City of Fresno's Complaint in Intervention, as amended and supplemented.

Conclusions of Law on Complaint in Intervention of State of California.

The Opinion of the above entitled court heretofore filed in the above entitled action and dated the 7th day of February, 1956, the Supplemental Memorandum After Hearing, dated the 11th day of July, 1956, and Exhibits 1 to 5 inclusive of the Findings of Fact on this Complaint in Intervention, as amended and supplemented, are hereby expressly annexed and made a part of these conclusions of law.

Any finding of fact stated in the conclusions of law are nevertheless hereby found to be a finding of fact, even though stated in the conclusions of law.

Any statements and conclusions of law, even though stated in the findings of fact, are nevertheless hereby found to be conclusions of law. [3746]

The conclusions of law expressed in said Opinion in the above entitled action dated the 7th day of February, 1956, and the Supplemental Memorandum After Hearing dated the 11th day of July, 1956, including the dismissal of the State of Cali-

fornia and dissolution of injunction pendente lite against the officials of the State of California, are hereby adopted as conclusions of law on the Complaint in Intervention of the State of California, as amended and supplemented.

Let judgment be entered accordingly.

Dated: This 22nd day of May, 1957.

/s/ PEIRSON M. HALL,
Judge of the United States
District Court. [3747]

[Note: Opinion is set out in 142 F. Supp. 1.

Exhibit 1—"Map of Water Right Investigations" is the same as Defendants' Exhibit A9A-1 except for the crayon markings, set out in the Book of Exhibits.

Exhibit 2—"Description of Certain Lands Riparian to the San Joaquin River" is the same as Exhibit 2 attached to the Amended Judgment.

Exhibit 3—"Legal Description—Topographic Boundary of Alluvial Cone and Minimum Area Within Which Ground-Water Presently or Potentially is Influenced by Flow of San Joaquin River" is the same as Exhibit 3 attached to the Amended Judgment.

Exhibit 4—(Page 1) "Profile of San Joaquin River, Friant to White House Gaging Station Showing Check Dams Constituting the Physical Solution by Court in its Opinion of February 7,

1956 and Supplemented Opinion of July 11, 1956" and (Page 2) "Typical Collapsible Check Dams, Types I, II & III, San Joaquin River Between Friant Dam and Mendota Pool" September, 1956, is the same as Exhibit 4 attached to Amended Judgment.

Exhibit 5—"Table 3—Monthly Flow Schedule Allowance of Each Crop and Grass Land Water Right as Related to the Adjusted Flow of San Joaquin River at Friant in Second-Feet" is the same as attached to Amended Judgment.]

[Endorsed]: Filed May 24, 1957.

United States District Court, Southern District of California, Northern Division

No. 685-ND

Everett G. Rank, Duane M. Folsom, E. Florence Folsom, Evelyn Lydia Rank, J. E. Cobb, Ruby Cobb, Lawrence D. Cobb, Marjorie E. Sims, L. L. Howard, Alma Howard, Henry H. Engleman, Robert C. "Red" Arnold, Jesse Frank Martin, C. A. Hawkins, Carl Harry Johnson, Holland Ranch and Development Corporation, a Corporation, The City of Fresno, a Municipal Corporation, Tranquillity Irrigation District, a Public Corporation, Plaintiffs,

vs.

United States of America, Clyde Spencer, Individually, and as Supervising Engineer, California Projects, United States Bureau of Reclamation, as Regional Director of the United States Bureau of Reclamation, as Director, Region 2, United States Bureau of Reclamation, Martin

Blote, Individually and as Watermaster, United States Bureau of Reclamation, and as Superintendent of Operations of the Central Valley Project, United States Bureau of Reclamation; Edwin F. Sullivan, Individually, and as Operations Supervisor, Fresno Operations Office, United States Bureau of Reclamation, Pacific Gas & Electric Company, a Corporation, The People of the State of California, The Madera Irrigation District, Southern San Joaquin Municipal Utility District, Lindsay-Strathmore Irrigation District, Lindmore Irrigation District; Ivanhoe Irrigation District, Saucelito Irrigation District, Orange Cove Irrigation District, Tulare Irrigation District, Lower Tule River Irrigation District, Stone Corral Irrigation District, Terra Bella Irrigation District, Porterville Irrigation District, Exeter Irrigation District, Delano-Earlimart Irrigation District, Chowchilla Water District, Consolidated Irrigation District, Public Corporations; John Doe One to One Thousand; John Doe Districts, One to Forty, Defendants.

The State of California,
Complainant in Intervention,

vs.

United States of America, Everett G. Rank, The City of Fresno, a Municipal corporation, Tranquillity Irrigation District, a Public corporation, et al., Defendants in Intervention.

The City of Fresno, a Municipal corporation,
Complainant in Intervention,

vs.

United States of America, Edwin F. Sullivan, Edwin F. Sullivan as Operation Supervisor, Fresno Operations Office, et al.,
Defendants in Intervention.

960-B *State of California; U.S.A., et al., vs.*

Tranquillity Irrigation District, A Public corporation, Complainant in Intervention,

vs.

United States of America, Edwin F. Sullivan, Edwin F. Sullivan as Operation Supervisor, Fresno Operations Office, et al., Defendants in Intervention.

City of Fresno, a Municipal corporation, Petitioners,

vs.

State Water Rights Board of the State of California, etc., et al., Respondents.

CORRECTED AND AMENDED JUDGMENT

The Court having made its Corrected and Amended Findings of Fact and Conclusions of Law, now makes its Corrected and Amended Judgment, now good cause appearing therefor:

It Is Hereby Ordered, Adjudged and Decreed as Follows: [3759]

1. That plaintiffs Duane M. Folsom and E. Florence Folsom are the owners in fee of the following described land located in the County of Fresno, State of California:

Government Lots 4, 5, 6 and 7, and the S½ of the NE¼ of Section 10, and the NW¼ of Section 11, all in Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United

States Government Township Plats, in the County of Fresno, State of California; and all lands contiguous thereto to the center of the San Joaquin River.

That all of the said land hereinabove described in paragraph 1 of this judgment is, and at all times has been, riparian to said San Joaquin River except the following portion of the above described property hereinafter and in this paragraph 1 of this judgment referred to as Exception 1 of paragraph 1 of this judgment:

Exception 1. The NW¼ of Section 11, Township 12 South, Range 20 East, M.D.B. & M., Fresno County.

That by virtue of the riparian nature of said land, plaintiffs Duane M. Folsom and E. Florence Rolsom, as owners of said land, are entitled to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 1 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

That, in addition to and regardless of said ripa-

rian rights, said plaintiffs Duane M. Folsom and E. Florence Folsom now have, and at all times since 1909 have had, appropriative [3760] and prescriptive rights to take, divert and pump from said San Joaquin River up to 1400 gallons per minute of the surface waters of said San Joaquin River, and use the same for reasonable and beneficial uses on lands described in Exception 1 of this paragraph 1 of this judgment by reasonable methods of diversion and use as reasonable and beneficial uses and reasonable methods of diversion and use are hereinafter in this judgment described and defined.

2. That plaintiffs Everett G. Rank and Evelyn Lydia Rank are the owners in fee of the following described land located in the County of Fresno, State of California:

That certain real property located in the County of Fresno, State of California, described as follows:

The W½ of the SW¼ of the SW¼ of Section 1, Township 12 South, Range 20 East, Mount Diablo Base and Meridian according to the United States Government Township Plats.

A portion of Lot 10 of Section 2, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United States Government Township Plats, bounded by the south and northwest lines of said Lot 10 and by a line commencing on said south line at a point at that distance from the angle formed by said south line and northwest line which when projected at right angles north to said northwest line includes 2.78 acres, and no

more. Also the E½ of the SE¼ of Section 2, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United States Government Township Plats; and all lands contiguous thereto to the center of the San Joaquin River; Except therefrom the following: Commencing at the southeast corner of the SE¼ of said Section 2; thence north 840 feet; thence west 800 feet; thence south 840 feet and thence east 800 feet to the point of commencement.

That all of said land hereinabove and in paragraph 2 of this judgment is, and at all times has been, riparian to said San Joaquin River except the following portion of the above described property hereinafter and in this paragraph 2 of this judgment referred to as Exception 1 of paragraph 2 of this judgment: [3761]

Exception 1. The W½ of the SW¼ of the SW¼ of Section 1, Township 12 South, Range 20 East, Mount Diablo Base and Meridian according to the United States Government Township Plats.

That by virtue of the riparian nature of said land, plaintiffs Everett G. Rank and Evelyn Lydia Rank, as owners of said land, are entitled to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 2 of this judgment decreed to be riparian, and to take, pump, divert and use in

the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

That the land described in Exception 1 and the owners thereof did not, at the time of filing of plaintiffs' complaint, have prescriptive or appropriative rights to the surface flow of the waters of said San Joaquin River for use on the lands described in said Exception 1.

3. That plaintiff Evelyn Lydia Rank is the owner in fee of the following described land located in the County of Fresno, State of California:

That portion of the SE¼ of the SE¼ of Section 2, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United States Government Township Plats, described as follows:

Commencing at the southeast corner of the SE¼ of said Section 2; thence north 840 feet, thence west 800 feet; thence south 840 feet and thence east 800 feet to the point of commencement.

That none of said land is riparian to said San Joaquin River, nor did it or said plaintiff Evelyn Lydia Rank, at the time of the filing of plaintiffs' complaint, have any appropriative [3762] or prescriptive right to take, divert or pump the surface flow of the waters of said San Joaquin River for use upon said lands.

4. That plaintiff Everett G. Rank is the owner in

fee of the following described land located in the County of Fresno, State of California:

Lots 5 and 9 in Section 2 and Lot 9 in Section 3, in Township 12 South, Range 20 East, Mount Diablo Base and Meridian, according to the United States Government Township Plats; and all lands contiguous thereto to the center of the San Joaquin River, which said lands in this paragraph defined and all accretions thereto are commonly known and referred to as "Island No. 1," "Cobbs Island," "Rank Island" and "Elkins Island."

That all of said land hereinabove described in paragraph 4 of this judgment is, and at all times has been riparian to said San Joaquin River.

That by virtue of the riparian nature of said land, plaintiff Everett G. Rank, as owner thereof, is entitled to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 4 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

5. That plaintiff J. E. Cobb is the owner in fee of the following described land located in the County of Madera, State of California:

In Section 20 and 21, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, the area described as follows: Beginning at an iron pipe which is S 61° 42' W. 1131.4 feet from an iron pipe on the north line of said Section 21, which is 674.0 feet easterly from the northwest corner [3763] of said Section 21; thence S 61° 42' W. 268.6 feet to an iron pipe; thence S 50° 14' W. 667.7 feet to an iron pipe; thence east parallel with and 1088.3 feet south of the north line of said section, a distance of 3148.8 feet, to an iron pipe; thence east to the intersection with the easterly boundary line of Lot 1 of said section; thence following the easterly boundary line of said Lot 1 northeasterly to a point which is 534.9 feet southerly at right angles from the north line of said section; thence west parallel with and 534.9 feet south of the north line of said section to an iron pipe; thence west a distance of 3132.3 feet to the point of beginning; and all lands contiguous thereto to the center of the San Joaquin River.

That portion of the E½ of Section 9 lying in Madera County and the NW¼ of NW¼ and Lots 1 and 2 in Section 10, Township 12 South, Range 20 East, Mount Diablo Base and Meridian; and all lands contiguous thereto to the center of the San Joaquin River.

That all of said land hereinabove and in paragraph 5 of this judgment is, and at all times has been, riparian to said San Joaquin River except the following portion of the above described property hereinafter and in this paragraph 5 of this judg-

ment referred to as Exception 1 and Exception 2 of paragraph 5 of this judgment.

That by virtue of the riparian nature of said land, plaintiff J. E. Cobb, as owner thereof, is entitled to take, pump, divert and use all of the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands heretofore in this paragraph 5 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and the quantities of water required therefor, are hereinafter described and defined.

Exception 1. Those portions of the real property hereinbefore [3764] and in this finding described lying in Section 20, Township 12 South, Range 20 East, M.D.B. & M., Madera County.

Exception 2. The NE¼ of Section 9, Township 12 South, Range 20 East, M.D.B. & M., lying in Madera County.

That in addition to and regardless of said riparian rights, said plaintiff J. E. Cobb, at all times for more than 20 years prior to the filing of the within action had, and now has, a prescriptive right to take, divert and pump from said San Joaquin River up to 1,000 gallons per minute of the surface waters of said San Joaquin River, and use the same for reasonable and beneficial uses upon said ex-

cepted lands set forth in Exception 1 of this paragraph 5 of this judgment by reasonable methods of diversion and use, as reasonable and beneficial uses and reasonable methods of diversion and use are hereinafter and in this judgment described and defined.

That none of said land described in Exception 2 of this paragraph 5 of this judgment is riparian to said San Joaquin River, nor did it, or the owner thereof, at the time of the commencement of the within action, have any appropriative or prescriptive right to take, divert or pump the surface flow of the waters of said San Joaquin River for use upon said lands described in said Exception 2 of this paragraph 5 of this judgment.

6. That plaintiffs J. E. Cobb and Ruby Cobb are the owners in fee of the following described land located in the County of Madera, State of California:

In Section 16, Township 12 South, Range 20 East, Mount Diablo Base and Meridian: Southeasterly one-half of SW1/4 and that portion of SE1/4 lying W of San Joaquin River; and all lands contiguous thereto to the center of the San Joaquin River: (less 7.58 ac. Highway off W side of SE1/4 as said lands are set forth in Vol. 291 of Records, Page 234, Madera County Recorder's Office). [3765]

A parcel of land in Section 20, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, described as beginning at an iron pipe which is S 61° 42' W, 1400 feet from a pipe on N

line of Section 21 which is 674 feet Easterly from NW corner of Section 21; thence N 70° 40' W, 428.6 feet; thence S 71° 32' W, 192.3 feet; thence S 5° 55' W, 235.8 feet; thence S 20° 14' E. 283.1 feet; thence N 50° 14' E, 667.7 feet to point of beginning.

That all of said land hereinabove and in paragraph 6 of this judgment is, and at all times has been, riparian to said San Joaquin River except the following portion of the above described property hereinafter and in this paragraph 6 of this judgment referred to as Exception 1 and Exception 2 of paragraph 6 of this judgment:

Exception 1. All that portion of the Southeasterly one-half of SW¼ of said Section 16, Township 12 South, Range 20 East, M.D.B. & M.

Exception 2. A parcel of land in Section 20, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, described as beginning at an iron pipe which is S 61° 42' W, 1400 feet from a pipe on N line of Section 21 which is 674 feet Easterly from NW corner of Section 21; thence N 70° 40' W. 428.6 feet; thence S 71° 32' W, 192.3 feet; thence 55° 55' W, 235.8 feet; thence S 20° 14' E, 283.1 feet; thence N 50° 14' E, 667.7 feet to point of beginning.

That by virtue of the riparian nature of said land, plaintiffs J. E. Cobb and Ruby Cobb, as owners thereof, are entitled to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and

beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 6 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, [3766] are hereinafter described and defined.

That in addition to and regardless of said riparian rights, said plaintiffs J. E. Cobb and Ruby Cobb, at all times for more than 9 years prior to the filing of the within action had, and now have, a prescriptive right to take, divert, and pump from said San Joaquin River up to 1025 galions per minute of the surface waters of the San Joaquin River, and use the same for reasonable and beneficial uses by reasonable methods of diversion and use on the lands described in said Exception 1 of this Paragraph 6, as reasonable and beneficial uses and reasonable methods of diversion and use are hereinafter and in this judgment described and defined.

That none of said land described in Exception 2 of this paragraph 6 of this judgment is riparian to said San Joaquin River, nor did it, or the owners thereof, at the time of the filing of the within action, have any appropriative or prescriptive right to take, divert or pump the surface flow of the waters of said San Joaquin River for use upon said lands described in said Exception 2 of this paragraph 6 of this judgment.

7. That plaintiff Lawrence D. Cobb is the owner in fee of the following described land located in the County of Madera, State of California:

In Section 17, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lots 1, 2, 3, 4, 5, 6, 7 and 8; and all lands contiguous thereto to the center of the San Joaquin River; less 4.84 ac. Co. Rd.

In Section 20, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lots 2, 9, 10 and [3767] 15, and all of Lots 1, 7 and 8; and all lands contiguous thereto to the center of the San Joaquin River: Except the area described as follows: A parcel of land in Section 20, Township 12 South, Range 20 East described as beginning at an iron pipe which is S 61° 42′ W, 1400 feet from a pipe on N line of Section 21 which is 674 feet easterly from NW corner of Section 21; thence N 70° 40′ W, 428.6 feet; thence S 71° 32′ W, 192.3 feet; thence S 5° 55′ W, 235.8 feet; thence S 20° 14′ E, 283.1 feet; thence N 50° 14′ E, 667.7 feet to point of beginning.

In Section 21, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lot 5; NW 2.32 ac. of NW¼ of NW¼; S 37.45 ac of Lots 3 and 4; and all lands contiguous thereto to the center of the San Joaquin River.

In Sections 20 and 21, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, the area described as follows: Commencing at iron pipe which is South 50° 14′ West, 667.7 feet from an iron pipe which is South 61° 42′ West, 1400 feet from an

iron pipe on the North line of Section 21, Township 12 South, Range 20 East, which is 674 feet Easterly from the Northwest corner of said Section 21; thence South 50° 14′ West, 192.3 feet; thence South 35° 31′ West 532.3 feet; thence East parallel with and 1643.9 feet South of North line of said Section 21 a distance of 3108.7 feet; thence East to the intersection with the Easterly boundary line of Lot 3 of said Section 21; thence northeasterly following the Easterly boundary line of Lots 3 and 1 of said Section 21 to a point which is 1088.3 feet Southerly at right angles from the North line of said Section 21; thence West parallel with and 1088.3 feet South of North line of said Section 21 to an iron pipe; thence West a distance of 3148.8 feet to the point of commencement; and all lands contiguous thereto to the center of the San Joaquin River.

That all of said land hereinabove and in paragraph 7 of this judgment is, and at all times has been, riparian to said San Joaquin River except the following portion of the above described property hereinafter and in this paragraph 7 of this judgment referred to as Exception 1 and Exception 2 of paragraph 7 of this judgment:

Exception 1. In Madera County, all that portion of Lots 1, 2, 7 and 8 in the NE¼ of Section 20, Township 12 South, Range 20 East, M.D.B.&M., according to [3768] the United States Government Township Plats, described as follows:

Beginning at an iron pipe which is S 50° 14′ W, 667.7 feet from an iron pipe which is S 61° 42′ W, 1400 feet from an iron pipe on the N line of Section 21, Township 12 South, Range 20 East, which

is 674 feet easterly from the NW corner of said Section 21; thence S 50° 14' W, 192.3 feet; thence S 35° 31' W, 532.3 feet; thence east parallel with and 1643.9 feet south of the N line of said Section 20, to a point on the E line thereof; thence along said E line, N 555.6 feet; thence west parallel with and 1088.3 feet south of the N line of said Section 20 to the point of beginning.

Said land being the same land as shown on Exhibit 1 hereof lying in the NE¼ of Section 20, Township 12 South, Range 20 East, M.D.B.&M., and within the dotted triangle of Exhibit 1 of this judgment.

Exception 2. Section 17, Township 12 South, Range 20 East, M.D.B.&M., Lots 1, 2, 3, 4, 5, 6, 7 and 8.

That by virtue of the riparian nature of said land, plaintiff Lawrence D. Cobb, as owner thereof, is entitled to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 7 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

That none of said land described in Exception 2 of this paragraph 7 of this judgment is riparian

to said San Joaquin River, nor did it, or the owner thereof, at the time of the filing of the within action, have any appropriative or prescriptive right to take, divert or pump the surface flow of the waters of said San Joaquin River for use upon said lands described in said Exception 2 of this paragraph 7 of this judgment. [3769]

That in addition to and regardless of said riparian rights, said plaintiff Lawrence D. Cobb, at all times for more than 9 years prior to the filing of the within action had, and now has, a prescriptive right to take, divert and pump from said San Joaquin River up to 1,025 gallons per minute of the surface waters of said San Joaquin River, and use the same upon the lands described in Exception 1 of this paragraph 7 of this judgment for reasonable and beneficial uses by reasonable methods of diversion and use, as reasonable and beneficial uses and reasonable methods of diversion and use are hereinafter and in this judgment described and defined.

8. That plaintiff Marjorie Sims is the owner in fee of the following described land located in the County of Fresno, State of California:

Lot 16, Section 9, Township 12 South, Range 20 East, Mount Diablo Base and Meridian; and all lands contiguous thereto to the center of the San Joaquin River.

W-½ of SW-¼ of NW-¼; SW-¼ of NW-¼ of NW-¼, Section 15, Township 12 South, Range 20 East, Mount Diablo Base and Meridian; and all

lands contiguous thereto to the center of the San Joaquin River.

In Section 16, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lot 7; portion of Lot 6 described as: Commencing at NE corner of said lot; thence S 20 rds; thence W 40 rds; thence S 20 rds; thence W to U.S. Seg. line; thence northwesterly to N line of said lot; thence E to commencement; and all lands contiguous thereto to the center of the San Joaquin River; less S 12 rds frontage on County Road; running E from SW corner of said tract; also less portions of Lots 6 and 7, lying W of County Road.

In Section 16, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, portion of Government Lots 6 and 7 in NE-1/4, lying W of road; and all lands contiguous thereto to the center of the San Joaquin River; less any portion lying S of a line drawn 120 rds S of and parallel to N line of Section 16.

That all of the said land hereinabove and in paragraph 8 of this judgment is, and at all times has been, riparian to [3770] said San Joaquin River except the following portion of the above described land hereinafter and in this paragraph 8 of this judgment referred to as Exception 1 of paragraph 8 of this judgment.

Exception 1.

W-1/2 of SW-1/4 of NW-1/4; SW-1/4 of NW-1/4 of NW-1/4, Section 15, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Fresno County.

That by virtue of the riparian nature of said land, plaintiff Marjorie Sims, as owner thereof, is entitled to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 8 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

That in addition to and regardless of said riparian rights, said plaintiff Marjorie Sims, at all times for more than 45 years prior to the filing of the within action had, and now has, appropriative and prescriptive rights to take, divert and pump from said San Joaquin River, up to 1,000 gallons per minute of the surface waters of said San Joaquin River, and use the same upon said lands described in Exception 1 of this said paragraph 8 of this judgment for reasonable and beneficial uses by reasonable methods of diversion and use, as reasonable and beneficial uses and reasonable methods of diversion and use are hereinafter and in this judgment described and defined. [3771]

9. That plaintiff Marjorie Simms is the owner in fee of the following described land located in the County of Madera, State of California:

In Sections 20 and 21, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, commencing at an iron pipe on the N line of Section 21 which is 674.0 ft. easterly from the NW corner of said Section 21; thence S 61° 42' W 1131.4 feet; thence E parallel with and 534.9 feet S of the N line of said Section 21, a distance of 3132.3 feet; thence E to the intersection with the easterly boundary line of Lot 1 of said Section 21; thence Northeasterly following the Easterly boundary line of said Lot 1 to the NE corner of said Lot 1; thence W along the N line of said Section 21 to an iron pipe; thence W a distance of 3094.0 feet to the point of commencement; and all lands contiguous thereto to the center of the San Joaquin River; less 1.48 ac. in Section 21 to the State of California for road purposes.

That all of said land hereinabove and in paragraph 9 of this judgment is, and at all times has been, riparian to said San Joaquin River except the following portion of the above described land hereinafter and in this paragraph 9 of this judgment referred to as Exception 1 of paragraph 9, of this judgment:

Exception 1.

That portion of the lands hereinabove described in this said paragraph 9 of this judgment, lying in Section 20, Township 12 South, Range 20 East, M.D.B. & M., Madera County.

That by virtue of the riparian nature of said land, plaintiff Marjorie Sims, as the owner thereof, is entitled to take, pump, divert and use all the

water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 9 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined. [3772]

That in addition to and regardless of said riparian right, said plaintiff Marjorie Sims, at all times for more than 20 years prior to the filing of the within action had, and now has, a prescriptive right to take, divert and pump from said San Joaquin River up to 1,025 gallons per minute of the surface waters of said San Joaquin River, and use the same upon the land described in Exception 1 of this paragraph 9 of this judgment for reasonable and beneficial uses and by reasonable methods of diversion and use, as reasonable and beneficial uses and reasonable methods of diversion and use are hereinafter and in this judgment described and defined.

10. That plaintiff Leslie L. Howard, also known as L. L. Howard, and Alma Howard are the owners in fee of the following described land located in the County of Madera, State of California:

In Section 30,—Township 12 South, Range 20 East, Mount Diablo Base and Meridian, Lot 12,

also all that land lying between the westerly line of said lot and the San Joaquin River; Lots 7 and 9 of Walker Ranch; and that portion of Lot 3 of Walker Ranch, containing 6.62 acres described as follows:

Beginning at the northeast corner of Lot 7 of said Walker Ranch thence North 200 feet; thence at right angles West and parallel with the North line of said Lot 7, 1504 feet to a point; thence at right angles south to Southerly line of said Lot 3, being the line dividing said Lot 3 from Lot 8 of said tract; thence in a Southeasterly direction along the line dividing said Lot 3 from Lot 8 of said tract to the Northwesterly corner of said Lot 7; thence east along the North line of said Lot 7 to the point of beginning; and all lands contiguous thereto to the center of the San Joaquin River. All above Walker Ranch Lots as shown on "Map of Walker Ranch" recorded May 12, 1919, in Book 4, pages 51 and 52 of maps, Madera County Records.

Also right-of-way over a strip of land 30 feet wide off of and over West side of Lot 5 in Section 30, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, extending from Bluff to the River Northwesterly and Southeasterly through said Lot 5, along river to San Joaquin River leading to said Lot 12; and all lands contiguous thereto to the center of the San Joaquin River. [3773]

That all of said land described in paragraph 10

of this judgment is, and at all times has been, riparian to said San Joaquin River.

That by virtue of the riparian nature of said land, plaintiffs Leslie L. Howard, also known as L. L. Howard, and Alma Howard, as owners thereof, are entitled to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 10 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

11. That plaintiff Robert C. Arnold, also known as "Red" Arnold, is the owner in fee of the following described land located in the County of Madera, State of California:

Parcel No. 1:

The SE-1/4 and the S-1/2 of the NE-1/4 of Section 33, Township 11 South, Range 20 East, M.D.B. & M., Madera County.

The SW-1/4, the S-1/2 of the NW-1/4, the W-1/2 of the SE-1/4, and the SW-1/4 of the NE-1/4 of Section 34, Township 11 South, Range 20 East, M.D.B. & M., and all that portion of the SE-1/4 of the NE-1/4 and the E-1/2 of the SE-1/4 of Section 34, Township 11 South, Range 20 East, M.D.B. & M.,

and that portion of Lots 1 to 8 both inclusive, of Section 3, Township 12 South, Range 20 East, M.D.B. & M., lying West of the apparent meandering line constituting the eastern boundary of Parcel 26, Fresno Drawing No. 214-204-2290, Exhibit 1 of the Findings.

Parcel No. 2:

The N-1/2 of the SW-1/4 and the SW-1/4 of SW-1/4, and Lots 10 and 11 in Section 3; the SE-1/4 the S-1/2 of NE-1/4 Lots 1 and 2 in Section 4, all in Township 12 South, Range 20 East, M.D.B. & M., according to the United States Government Township Plats. [3774]

That the following portion of the above described land in paragraph 11 of this judgment:

> That portion of Lots 1, 2, 3, 6, 7 and 8 of Section 3, Township 12 South, Range 20 East, M.D.B. & M., lying West of the apparent meandering line constituting the eastern boundary of Parcel 26, Fresno Drawing No. 214-204-2290, Exhibit 1 of the Findings; and the N-1/2 of the SW-1/4 the SW-1/4 of the SW-1/4, and Lots 10 and 11 in Section 3, Township 12 South, Range 20 East, M.D.B. & M.,

is, and at all times has been, riparian to said San Joaquin River, and that by virtue of the riparian nature of said land, said plaintiff Robert C. Arnold, also known as "Red" Arnold, as owner thereof, is entitled to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said

lands hereinbefore in this said paragraph 11 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

That the lands of said Robert C. Arnold, also known as "Red" Arnold, hereinbefore not found to have riparian rights, did not, or the owner thereof did not, at the time of the commencement of this action, have appropriative or prescriptive rights to the surface flow of the waters of said river for use thereon.

12. That plaintiffs Henry H. Engelman and Emma Engelman are the owners in fee of the following described land located in the County of Fresno, State of California:

Lots 7 and 8 in Section 8, Township 13 South, Range 18 East of Sycamore Ranch Tract, according to the map thereof recorded July 17, 1912, in [3775] Book 8 of Records of Surveys at pages 7 and 8, in the Office of the County Recorder of said County, except that portion lying north of a slough running across said land.

That all of said land described in paragraph 12 of this judgment is, and at all times has been, riparian to said San Joaquin River.

That by virtue of the riparian nature of said land, plaintiffs Henry H. Engelman and Emma Engelman, as owners thereof, are entitled to take,

pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 12 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined.

13. That plaintiff C. A. Hawkins, at the time of the filing of the above entitled action and when he became a named plaintiff, was the owner in fee of the following described land located in the County of Fresno, State of California:

Lots 33 to 40 inclusive, and 43 to 46 inclusive, 51 to 54 inclusive, and 59 to 62 inclusive, in Section 17, Township 13 South, Range 19 East, M.D.B. & M., consisting of 396.36 acres.

That none of said property is riparian to said San Joaquin River, nor did said lands, or the owner thereof, at the time of the commencement of said action, have appropriative or prescriptive rights to the surface flow of said river for use on said lands.

14. That plaintiff Holland Land & Development Co. is the owner in fee of the following described land located in [3776] the County of Fresno, State of California:

That certain real property located in the County of Fresno, State of California, described as follows:

Lot 13, Section 35, Township 11 South, Range 20 East, M.D.B. & M., and all lands contiguous thereto to the center of the San Joaquin River.

Lots 9 and 10, Section 1, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

Lot 11, Section 2, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

Lot 10, Section 2, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River; less 2.78 acres in SW corner of Lot 10, Section 2, Township 12 South, Range 20 East, M.D.B. & M.

Lots 7 to 10 inclusive; Portion of Lot 6, lying West of Canal in Section 29, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River, [3777]

That portion of Government Lot 3 and that portion of Lot 299, Perrin Colony No. 2, lying N and W of a line described as: Beginning in North line of Section 32, 1811 feet West from Northeast corner thereof, said point being in center of upper San Joaquin Canal; thence following said line South 35° 30' West 316 feet; thence South 62° 20' West 130 feet; thence South 31° 23' West 165 feet; thence South 74° 29' West 540 feet; thence South 72° 47' West 600 feet; thence South 67° 39'

West 400 feet; thence leaving said Canal North 80° 20′ West 232 feet to Southerly water edge of San Joaquin River; Section 32, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

Perrin Colony No. 2: Lots 269 to 274, lying West of Canal, Section 28, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

Perrin Colony No. 2: Portion of Lots 273, 274 described as: Beginning at a point 1406.8 feet North 0° 04′ East of corner common to Sections 28, 29, 32, 33; thence North 40° 41′ East 621.5 feet; thence North 28° 04′ East 362.5 feet; thence North 51° 17′ West 100 feet; thence North 71° 34′ West 131.75 feet to a point in center line of Old San Joaquin Canal; thence along center of Canal South 15° 06′ West 352 feet; thence South 40° 16′ West 434.5 feet; thence South 0° 04′ West 224.1 feet to point of beginning, Section 28, Township 12 South, Range 20 East, M.D.B. & M.

Perrin Colony No. 2: Lots 285 to 287; portion of Lots 288 to 290, lying West of Canal; Section 29, Township 12 South, Range 20 East, M.D.B. & M.

SE¼ of NE¼, Section 29, and portions west of canal in SW¼ of NW¼, Section 28, NW¼ of SW¼ Section 28, NE¼ of SE¼, Section 29, and SE¼ of SE¼, Section 29, Township 12 South, Range 20 East, M.D.B. & M.

That all of the said land hereinabove described in paragraph 14 of this judgment is, and at all times has been, riparian to said San Joaquin River, except the following portion of the above described land hereinafter and in this paragraph 14 of this judgment referred to as Exception 1 of paragraph 14 of this judgment:

Exception 1.

A. Perrin Colony No. 2: Lots 271 to 274 [3778] inclusive, lying west of Canal, Section 28, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

B. Perrin Colony No. 2; Portion of Lots 273, 274 described as: Beginning at a point 1406.8 feet North 0° 04′ East of corner common to Sections 28, 29, 32, 33; thence North 40° 41′ East 621.5 feet; thence North 28° 04′ East 362.5 feet; thence North 51° 17′ West 100 feet, thence North 71° 34′ West 131.75 feet to a point in center line of Old San Joaquin Canal; thence along center of Canal South 15° 06′ West 352 feet; thence South 40° 16′ West 434.5 feet; thence South 0° 04′ West 224.1 feet to point of beginning, Section 28, Township 12 South, Range 20 East, M.D.B. & M.; and all lands contiguous thereto to the center of the San Joaquin River.

C. Perrin Colony No. 2: Lots 285 to 287; Portion of Lots 288 to 290, lying West of Canal; Section 29, Township 12 South, Range 20 East, Mount Diablo Base & Meridian; and all lands contiguous thereto to the center of the San Joaquin River.

D. SE-¼ of NE-¼, Section 29, and portions west of Canal in SW-¼ of NW-¼, Section 28, NW-¼ of SW-¼, Section 28, NE-¼ of SE¼, Section 29, and SE-¼ of SE-¼, Section 29, Township 12 South, Range 20 East, M.D.B. & M.

That by virtue of the riparian nature of said land, plaintiff Holland Land & Development Co., as owner thereof, is entitled to take, pump, divert and use all the water of and from the surface flow of the San Joaquin River required for reasonable and beneficial uses by reasonable methods of diversion and use on said lands hereinbefore in this said paragraph 14 of this judgment decreed to be riparian, and to take, pump, divert and use in the future such amounts for said purposes and uses to which such lands are or may be made adaptable. The terms reasonable and beneficial uses by reasonable methods of diversion and use and quantities of water required therefor are hereinafter described and defined. [3779]

That none of said land described in Exception 1 of this paragraph 14 of this judgment is riparian to said San Joaquin River, nor did said lands or the owner thereof, at the time of the commencement of the within action, have any appropriative or prescriptive right to take, divert or pump the surface flow of the waters of said San Joaquin River for use upon said lands described in said Exception 1 of this paragraph 14 of this judgment.

15. That plaintiff Jesse Frank Martin is the owner in fee of the following described land lo-

cated in the County [3780] of Madera, State of California:

Parcel I.

All of Lot 3, excepting N. 30 acres, Section 8, Township 13 South, Range 18 East, M.D.B. & M., 29.45 acres.

Parcel II.

N. 20 acres of Lot 4, less N. 30 feet Co. Rd., Section 8, Township 13 South, Range 18 East, M.D.B. & M., 19.10 acres.

Parcel III.

Beginning at a point on W. line of Lot 4 of Section 8 which bears S. 658.53 ft. from NW corner of Lot 4, thence N. 89° 41′ East 1322.98 feet to point on East line of Lot 4 which bears S. 658.83 feet from NE corner of Lot 4, thence S. 541.17 ft., thence N. 81° 53′ West 555 ft., thence N. 67° 12. West 505 ft., thence North 51° 19′ West 393.20 ft. to a point on West line of Lot 4, thence along West line of Lot 4 North 14.67 feet to point of beginning, reserving West 30 feet road easement; Section 8, Township 13 South, Range 18 East, M.D.B. & M., 11.16 acres.

Parcel IV:

NW¼ of SW¼ (40.09 acres, less West 30 feet Co. Rd.) Section 5, Township 13 South, Range 18 East, M.D.B. & M., 39.19 acres.

Parcel V:

S½ of SW¼ of SW¼ (20.40 acres reserving W. & S. 30 feet for public roads) Section 5, Township 13 South, Range 18 East, M.D.B. & M., 19.13 acres.

Parcel VI:

SE¼ of NW¼; E½ of E½ of SW¼ of NW¼ (50.57 acres, less S. 20 feet Co. Rd.), Section 5, Township 13 South, Range 18 East, M.D.B. & M., 49.82 acres.

Parcel VII:

Lot 1, Section 6, Township 13 South, Range 18 East, M.D.B. & M.

Parcel VIII:

SE¼ of SE¼ (77.85 acres less E. 30 ft. Co. Rd.) Section 6, Township 13 South, Range 18 East, M.D.B. & M., 76.95 acres.

Parcel IX:

Lot 1, Section 7, Township 13 South, Range 18 East, M.D.B. & M., 24.50 acres. [3781]

That Parcels I, II, III, VII and IX of the land hereinbefore and in paragraph 15 of this judgment more particularly described, are riparian to said San Joaquin River, but that said plaintiff Jesse Frank Martin is estopped, on the basis of any claim of riparian rights to said Parcels I, II, III, VII and IX, from objecting to or enjoining any of the defendants from storing or diverting any of the waters of said San Joaquin River at Friant Dam; that Parcels IV, V, VI and VIII of the land hereinbefore and in paragraph 15 of this judgment more particularly described, are not riparian to said San Joaquin River.

16. That plaintiff Carl Harry Johnson is the owner in fee of the following described land located in the County of Madera, State of California:

NW¼ of the NE¼ of Section 6, Township 13

South, Range 18 East, M.D.B. & M., less the north 30 feet for County road, containing 39.13 acres.

All that portion of the E-½ of the SW-¼ of NE ¼ described as: Beginning at a point which bears north 580 feet from the southeast corner of the SW-¼ of the NE-¼ of Section 6, thence Northerly 60° 62½′ West, 707.50 feet, thence north 485.30 feet, thence along the north line of the S-½ of the N-½ of Section 6, South 89° 58′ east, 660 feet, to the northeast corner of the SW-¼ of the NE-¼ of Section 6, thence south 740.32 feet to point of beginning. Containing 9.28 acres.

All that portion of the N-½ of the NW-¼ of Section 6 lying east of the County road to Skaggs Bridge, containing 37.69 acres.

That none of said land is riparian to said San Joaquin River.

17. That that portion of the following numbered parcels of land (including the lands of the named plaintiffs hereinbefore in this judgment found to be riparian) lying within the dashed line (---) of Exhibit 1 of this judgment, which said dashed line (---) is more particularly described in Exhibit 2 of this judgment, both of which Exhibits 1 and 2 are expressly made a part of this judgment, are, and at all [3782] times have been, riparian to said San Joaquin River, and by virtue thereof, the respective owners of each of said parcels of land within said dashed line (---) are entitled to take, pump, divert and use all the water of and from the surface flow of the said San Joaquin River required for reasonable and beneficial

uses by reasonable methods of diversion and use on said parcels of said lands within said dashed line (---) and to take, pump, divert and use in the future such amount for said purposes and uses to which said lands are or may be made adaptable. The terms reasonable and beneficial use by reasonable methods of diversion and use and quantities of water required therefor, are hereinafter described and defined. Said parcels of land hereinbefore and in this paragraph 17 of this judgment are more particularly described and designated on said Exhibit 1 of this judgment by the following parcel numbers:

3A, 3B, 4, 7, 8, 12, 14, 20, 22, 23, 26, 27, 28, 29, 30, 35, 40, 41A, 41B, 41C, 42, 48, 49, 50A, 50B, 51, 59, 63, 68, 70, 71, 72, 82, 83A, 83B, 87, 88, 97A, 97B, 100, 101, 106, 131, 140, 145, 147, 149, 150, 152, 153, 157, 160, 168, 208B, 208E, and 208F.

37, 39, 44B, 46A, 46B, 55, 58, 60, 62A, 62B, 80, 86A, 86B, 86C, 89, 91, 93, 94, 95, 96, 98A, 98B, 98C, 99A, 99C, 105, 107, 110, 111, 112, 116, 117, 119, 124, 142, 166, 170A, 170B, 174, 180, 184, 196, 208A, 208D, 208G and 213.

18. All of the lands included within the said boundaries of Exhibit 3 of this judgment (The Lee Line) except where the right thereto has been withheld, waived, limited or granted away by contract, deed or other document, at all times had, and now have, overlying rights, analogous to riparian rights, in and to the underground [3783] percolating waters underlying each parcel of said lands,

as such underground water was supplied and replenished by the full natural flow of the San Joaquin River prior to any impoundment and diversion thereof at Friant Dam, and the owner of each said parcel of overlying land within the said "Lee Line" at all times had, and now has, the right to pump said underlying percolating waters resulting from said full natural flow of said river for reasonable and beneficial uses on each such respective parcel of overlying land by reasonable methods of diversion and use, and the right to take, pump and use said waters in the future for said reasonable and beneficial uses to which said land is or may be adaptable by reasonable methods of diversion and use.

The owners of appropriative and/or prescriptive rights within the boundaries of said Exhibit 3 of this judgment, who, or which, prior to the commencement of this action took water of and from the San Joaquin River, whether from the surface or the underground percolating water of said river, to satisfy those rights for reasonable and beneficial uses by reasonable means of diversion and use had, and each of them has, the right to the full natural flow of said river past Friant Dam to furnish water in satisfaction of those rights, whether from the surface flow or percolating water of the San Joaquin River.

19. The riparian and overlying rights of the lands described in paragraphs 1 through 18 hereof are inseparably annexed to and are part and parcel of each of the respective parcels comprising

said lands and are vested in the respective owners thereof, and such rights, and the appropriative and/or prescriptive rights of the owners thereof described in paragraphs 1, 5, 6, 7, 8, 9 and 18 hereof, are [3784] paramount, prior and superior to any and all rights, under any claim or color of right, of the defendants, and each or any of them, to impound, divert, impede, interrupt, interfere with, reduce, stop or take any water of the San Joaquin River at or by means of Friant Dam and its appurtenant works, and the owners of said rights have been, now are, and will be entitled to the full natural flow of the San Joaquin River past Friant at all times, without any impoundment or diversion or other interruption, reduction or taking of the waters thereof, unless and until the physical solution hereinelsewhere described is erected and constructed within a reasonable time, and thereafter operated as hereinelsewhere set forth.

20. The parcels of land designated in Exhibit 1 of this judgment by the following numbers, viz: 118, 121, 134, 135, 137, 138, 141, 143A, 143B, 144, 146, 148, 151, 154A, 154B, 155, 158, 163, 164, 165, 167, 172, 176, 177, 178, 181, 182, 183, 187A, 187B, 190, 191, 192, 197, 198A, 198B, 198C, 199, 204, 206, 207, 209 and 210 are subject to reservation of certain water rights in favor of Miller & Lux, Inc., which reserved water rights, as set forth in the findings of fact, are the subject of one or more of the following contracts between the United States and other parties, who, for convenience, are called

"grantors", viz: The grantors, dates, and recording data on said contracts being as follows, viz:

Miller & Lux, Inc. and affiliated or subsidiary companies "exchange contract" dated July 27, 1939, recorded in Book 623 at Page 417 of Official Records of Merced County: Miller & Lux "purchase contract" dated July 27, 1939 recorded in Book 623 at Page 364 Official Records of Merced County, followed by a deed from Miller & Lux and affiliated companies recorded in Book 623, Page 410 Official Records of Merced County: Edison Securities Company dated September 5, 1944 [3785] recorded in Volume 2227 at Page 107 Official Records of Fresno County and deed recorded at Volume 2249 Page 202 Official Records of Fresno County: Chowchilla Farms, Inc. contract dated October 2, 1939 recorded Volume 627, Page 59 Official Records of Merced County, and deed recorded in Volume 627, Page 104 Official Records of Merced County, Nell C. Hansen contract dated April 13, 1944 recorded in Volume 776, Page 161 Official Records of Merced County and deed recorded in Volume 778, Page 475 Official Records of Merced County: Martin Erreca and Marie Louise Erreca contract dated April 13, 1944 recorded in Volume 777 Page 225 Official Records of Merced County, and deed recorded in Volume 780, Page 220 Official Records of Merced County; C. A. Crane and others contract dated September 25, 1943 recorded in Volume 764 Page 326 Official Records of Merced County and deed recorded in Volume 770 at Page 157 Official Records of Merced County;

George S. Bloss contract dated May 25, 1943 recorded in Volume 754 Page 308 Official Records of Merced County and deed recorded in Volume 755 Page 279 Official Records of Merced County; George J. Hatfield and others contract dated August 13, 1943 recorded in Volume 755, Page 338 Official Records of Merced County; A. J. Turner contract dated November 13, 1943 recorded in Volume 762 Page 461 Official Records Merced County and deed recorded in Volume 768 Page 270 Official Records of Merced County; Charles S. Howard Company contract dated August 14, 1945 recorded in Volume 817 Page 35 Official Records of Merced County and deed recorded in Volume 819 Page 349 of Official Records of Merced County. Neither the United States, nor the defendants, nor any of them, acquired any right by said contracts, or any of them, [3786] or by any of the contracts covering these parcels designated on Exhibit 1 hereof by the following numbers, 1, 2, 5, 6, 9, 10, 11, 13, 15, 16, 17, 18, 19, 21, 24, 25, 31, 32, 33, 34, 36, 38, 43, 44A, 45, 47, 52, 53, 54, 56, 57, 61, 64, 65, 66, 67, 69, 73, 74, 75, 76, 77, 78, 79, 81, 84, 85, 90, 92, 99B, 102A, 102B, 103, 104, 108, 109, 113, 114, 115, 120, 122, 123, 125, 126, 127, 128, 129, 130, 132, 133, 136, 139, 156, 159, 161, 162, 169A, 169B, 171, 173, 175, 179, 185, 186, 188, 189, 193, 194, 195, 200, 201, 202, 203, 205, 208C, 211, 212, 214 and 215, to impound and divert the water of the San Joaquin River at Friant Dam, or to change the points and places at which diversions were made by said grantors, or the place of use, or the purposes of

use by the impounding and/or storage and/or diversion of water at Friant Dam, so as to impede, interrupt, interfere with, reduce, stop or take any of the full natural flow of the San Joaquin River to the derogation or injury of the herein described rights of the plaintiffs and the members of their class, or any of them, who did not sign such contracts or who did not take land subject to such reservations, or in derogation of the herein described rights of Tranquillity Irrigation District or of the City of Fresno. The plaintiffs and the members of their class, and each of them, and Tranquillity Irrigation District and the City of Fresno have been, and would be, greatly and irreparably damaged by changing the points of diversion and/or place of use, and/or purposes of use of the waters of the San Joaquin River as formerly done by the grantors in said contracts, to Friant Dam and the Madera and/or Friant-Kern Canal as presently practiced and threatened to be continued by the defendant, United States of America, and other defendants herein, and such great and irreparable injury will continue and will increase, unless the full natural flow is allowed [3787] to pass Friant, or unless and until the plan of physical solution is erected, constructed and operated as herein provided.

21. Neither the United States nor the defendants nor any of them acquired any rights by the hereinafter numbered applications to appropriate water of the San Joaquin River, or any of them, or the assignment thereof to the United States, or

the amendment thereof by the United States, as against the riparian, overlying, appropriative or prescriptive rights, or any of them, or any combination of them, of the plaintiffs or the members of their class, or any of them, or of the Tranquillity Irrigation District or the City of Fresno as described in the within judgment. Said applications are numbered as follows 23, 234, 1465, 2792, 5637, 5638, 5817, 5818, 5819, 5820, 5821, 5822, 9639, and 10750.

22. The impoundment, storage, and diversion of water at Friant Dam by the defendants as practiced and threatened to be continued by the defendant United States of America, and the other defendants, will result in great, immediate, irreparable and continuous injury to all the lands, rights, and properties described in this judgment, of the plaintiffs and their class, and each of them, and of the Tranquillity Irrigation District and of the City of Fresno which injury will continue and increase and occur at unpredictable times, unless the full natural flow of the San Joaquin River is permitted to pass Friant Dam, or unless and until the construction and operation of the physical solution hereinafter described.

Neither the plaintiffs, nor the members of their class, nor any of them, nor the Tranquillity Irri-

gation District, nor the City of Fresno, have any plain, speedy [3788] and adequate, or plain, or adequate, or speedy remedy at law.

23. The Court declares and decrees that, on the lands within the boundaries of the "Lee Line", Exhibit 3 hereof, (except the lands within the boundaries of the Tranquillity Irrigation District), the past, present, and future use of water of the San Joaquin River, in the amounts set forth in Table I, for (1) consumptive use, (2) crop irrigation requirements, (3) farm delivery requirements, and (4) irrigation efficiency percent, and water used for pre-irrigation purposes, is a necessary use for the crops set forth in said Table I and is a reasonable and beneficial use of the waters of the San Joaquin River for agricultural purposes, and that taking or diverting surface waters directly from said river by means of pumps or otherwise, and pumping underground percolating water from wells located on said lands, and carrying and/or distributing said surface and/or underground water by means of ditches, pipes, and conduits, or any of, or any combination of, such means, onto said lands for said purposes and uses is a reasonable and beneficial method of diversion and use of said waters. [3789]

TABLE I

Crop	Consumptive use	Effective Precipitation	Crop Irrigation requirement	Farm Delivery requirement	Irrigation efficiency %
	Acre feet per acre				
Alfalfa	3.42	0.38	3.04	4.05	75
Irrigated pasture	3.75	0.38	3.37	5.20	65
Cotton	2.38	0.38	2.00	2.85	70
Irrigated hay and grain	1.22	0.38	0.84	1.10	75
Truck	2.30	0.38	1.92	2.85	65
Misc. field crops	1.60	0.38	1.22	1.75	70
Deciduous fruit	2.38	0.38	2.00	2.65	75
Citrus & Olives	2.11	0.38	1.73	2.30	75
Grapes	2.53	0.38	2.15	3.10	70
Rice				6.00(58) to 7.1(59)	

Pre-irrigation by the application of water to land prior to planting is a beneficial use for these crops in addition to the amounts set forth herein.

The court declares and decrees that, on the lands within the boundaries of the Tranquillity Irrigation Disfriet, the past, present and future use of water in the amounts set forth in Table II for (1) consumptive use, (2) crop irrigation requirements, (3) farm delivery requirements, (4) irrigation efficiency percent, and (5) transmission losses, and water used for pre-irrigation purposes, is a necessary use for the crops set forth in said Table II and is a reasonable and beneficial use of water for agricultural purposes on said lands, and that taking or diverting water directly from Fresno Slough (whether said water originates from the San Joaquin River or not) by means of pumps or otherwise, and pumping underground percolating

water from wells located on said lands, and carrying, and/or distributing said surface and/or underground waters by means of ditches, pipes and conduits, or any of, or any combination of, such means, onto said lands for said purposes and uses is a reasonable and beneficial method of diversion and use of said waters. [3790]

TABLE II

Crop	Consumptive use	Effective Precipitation	Crop Irrigation requirement	Farm Delivery requirement	Irrigation efficiency %
	Acre feet per acre (a)				
Alfalfa	2.8	0.2	2.6	3.3	80
Irrigated pasture	3.7	0.2	3.5	4.4	80
Cotton (b)	2.4	0	2.4	3.0	80
Irrigated hay and grain (b)	1.2	0.2	1.0	1.25	80
Misc. field crops and truck	2.0	0	2.0	2.5	80
Rice	5.0	0	5.0	7.1	70
Sugar beets	2.4	0	2.4	3.0	80

(a) To these values should be added transmission losses in canal system amounting to at least 15 per cent.

(b) Pre-irrigation by the application of water to land prior to planting is a beneficial use for these crops in addition to the amounts set forth herein.

The "effective precipitation" and "irrigation efficiency per-cent", on the lands within the boundaries of Tranquillity Irrigation District are as set forth in Table II above, and on the remaining lands within the boundaries of the "Lee Line" (Exhibit 3) of this judgment, and within the City of Fresno and the adjacent metropolitan area which is or can be served by the City of Fresno's munici-

pal water department, are set forth in Table I above.

That the terms used in the headings of the above tabulation have the following meanings:

Consumptive Use is the sum of the volumes of water used by vegetative growth of a given area in transpiration or building of plant tissues, and that evaporated from the adjacent soil. These quantities are considered part of consumptive use regardless of whether the source is from irrigation or rainfall. The sum is normally expressed as acre-inches or acre-feet per acre per year.

Effective Precipitation is that part of the total seasonal precipitation which contributes toward the consumptive use of a crop. Part of the effective portion is used by plant transpiration during the winter season, the remainder is stored in the root zone for subsequent use [3791] by plants. The portion of precipitation which is considered ineffective is lost by percolation below the root zone, or is evaporated from the soil surface during the period of no crop growth.

Crop Irrigation Requirement is that portion of the consumptive use that must be supplied by irrigation, i.e., the consumptive use minus effective precipitation.

Irrigation Efficiency, which is expressed in percentage, is a measure of that portion of irrigation water delivered to the farm headgate which is utilized as crop irrigation requirement.

Farm Delivery Requirement is that quantity of water, delivered to the farm headgate, which is

required to bring a crop to maturity. It includes crop irrigation requirement and economically unavoidable losses due to application.

The use of water for other than agricultural purposes, to-wit, the use of water by human beings for drinking, bathing, household, household garden uses, evaporative and refrigerated air conditioning and other domestic uses and for manufacturing and other municipal uses up to an annual average of 339 gallons per person per day and the use of water for drinking and bathing by cattle and other animals and poultry is a reasonable and beneficial use within the said "Lee Line" and within the City of Fresno and adjacent metropolitan areas served or in the future to be served by the City of Fresno's municipal water department and within the Tranquillity Irrigation District; and, pumping or otherwise diverting said surface water directly from the San Joaquin River or from underground percolating waters by means of wells within said "Lee Line," and carrying and/or distributing the same upon said lands, or lands adjacent thereto or in the vicinity thereof, for the said purposes and uses is a reasonable and beneficial method of diversion and use of said waters.

In extremely dry years, or years of little rainfall, and on parcels of land within the boundaries of the "Lee Line" upon which the soil is loose and porous or consists principally of sand and gravel, the use of water for irrigation, domestic, municipal and agricultural uses in excess of the amounts set forth in the above table may also constitute

reasonable and beneficial uses of the surface waters of the San Joaquin River or the waters pumped from the underground [3792] percolating waters originating from the San Joaquin River within the boundaries of said "Lee Line". The court's jurisdiction to change the amounts of reasonable and beneficial use upon appropriate showing therefor is retained.

24. The within action is a class action within the meaning of Rule 23(a) (1) of the Federal Rules of Civil Procedure.

The separately owned parcels of land which are ~~riparian~~ to the San Joaquin River as described in Paragraphs 1 to 17 inclusive hereof and the owners thereof and the separately owned parcels of land which are overlying the underground and percolating waters of the San Joaquin River as described in Paragraph 18 hereof and the owners thereof. and the owners of prescriptive rights and/or appropriative rights as described in paragraphs 1, 5, 6, 7, 8 and 9 and paragraphs 18 and 19 hereof, and the owners of lands lying within the boundaries of Exhibit 3 hereof (Lee Line) having all or any, or any combination of said rights, are so numerous as to make it impracticable to bring them all before the court in this or any single action, and to require each to bring a separate action would result in a multiplicity of actions and would be inequitable and unjust.

All of said lands and rights and each of them, and the owners thereof and each of them, regardless of the character of the right, i.e., whether ri-

parian, overlying, appropriative, or prescriptive, or any of them, or any combination of them, and regardless of the quantity of water to which any individual tract or land, or the owner thereof, or the owner of any such right or rights, may be entitled, have a common right to a common source of supply of water to satisfy and supply said rights, viz: the full natural flow of the San Joaquin River past Friant, or its [3793] equivalent by way of the physical solution hereinelsewhere provided.

The named plaintiffs, on behalf of themselves and each and all of the above described other persons and rights and the owners thereof, are seeking, in the within action, to enforce the above described common right to a common source of supply of water and to prevent a common injury to all said lands and rights, and the owners thereof, resulting from the storage and/or impoundment and/or diversion of water as practiced and threatened by the defendants at or by means of Friant Dam, the Madera Canal, and the Friant-Kern Canal, and appurtenant works, in derogation of and injury to said rights as hereinelsewhere described.

Said named plaintiffs have at all times adequately represented, and will fairly insure the adequate representation in the future of all those other persons not named as a party plaintiff to this suit, who own lands with, or who own riparian, overlying, appropriative or prescriptive rights, or any, or all, or any combination of them, within the boundaries of said Exhibit 3 ("Lee

Line"), to either or both surface and underground waters of the San Joaquin River.

The rights of the plaintiffs and each of the members of their class as herein set forth, and the rights of the Tranquillity Irrigation District, and the rights of the City of Fresno, are not adverse to one another, or to each other, or to any of them.

25. The plaintiffs who have filed actions under the Tucker Act, 23 U.S.C.A. 1347, 1402, 1491, et seq. are not barred from receiving injunctive and other equitable relief decreed in this action.

26. The court has jurisdiction of the [3794] State of California on the basis of its original intervention, but no relief for or against the State is required or is possible under the pleadings and issues, which show an actual litigable controversy only among the parties other than the State; a judgment of dismissal of the State of California's Complaint in Intervention and the State as defendant in intervention is hereby entered under the City of Fresno's Complaint in Intervention and under the Complaint in Intervention of Tranquillity Irrigation District, as amended and supplemented.

27. The court has jurisdiction of the subject matter of this action and personal jurisdiction of the defendant water and irrigation districts and personal jurisdiction of the defendant officials of the defendant United States.

The court has jurisdiction of the United States of America under the Act of July 10, 1952 (43 U.S.C.A. paragraph 666); the United States is a

party, and is a necessary, but not an indispensable party to this said action, and the complaints in intervention of the City of Fresno and Tranquillity Irrigation District; neither the Secretary of the Interior nor the Commissioner of the Bureau of Reclamation are indispensable parties to this action or under said complaints in intervention of the City of Fresno and Tranquillity Irrigation District. The United States, after filing a motion to dismiss, filed no document thereafter which was designated as a pleading, and motion for default of the United States was timely made; the defendant officials of the United States filed no responsive pleading to the last amended and supplemental complaint of the plaintiffs and motion for their default was timely made; no appearance was made by anyone on behalf of the [3795] United States at the trial after filing and arguing said Motion to dismiss (made after the United States was joined as a party), and no appearance was made by anyone on behalf of the defendant officials at the trial after it was reopened; evidence was taken which was heavily preponderating and which was satisfactory to the Court to sustain and support the findings of fact and conclusions of law and the judgment herein against the United States of America and the defendant officials of the United States of America, hereinafter named and described; full compliance was had by the plaintiffs and by the complainants in intervention Tranquillity Irrigation District and the City of Fresno with all applicable provisions of the law requiring serv-

ice of process and copies of pleadings, motions, notices and other documents upon the United States and upon said defendant officials; the Court has jurisdiction over Clyde Spencer, Martin Blote and Edwin F. Sullivan, individually, and over Clyde Spencer, Supervising Engineer, California Projects, U. S. Bureau of Reclamation, Region 2; Martin Blote, Watermaster, U. S. Bureau of Reclamation, and Edwin F. Sullivan, Operations Supervisor, U. S. Bureau of Reclamation, which officials and their predecessors, whether operating under the same title or not, had the exercise of, and do now have and exercise, the management and control of Friant Dam and its appurtenant works, and do determine and control the amount and time of impounding the water thereat as well as the time and quantities of water to be released from Friant Dam to the river bed, and to the Madera Canal and to the Friant-Kern Canal, without the prior approval of such acts, or any of them, by either the Secretary of the Interior of the United States or the Commissioner of the Bureau of Reclamation of the United States or any other officials of the United States.

28. That none of the rights of the plaintiffs or any of the members of their class or of the [3796] Tranquillity Irrigation District or the City of Fresno are barred by prescription, laches, estoppel, intervention of a public use on behalf of the defendants or any of them, or at all, and against the plaintiffs and/or any member of their class or

against the Tranquillity Irrigation District, or the City of Fresno.

That neither the enactment of legislation authorizing the Central Valley Project by either the State of California or by the United States, nor making appropriations therefor, nor any other Act of Congress, nor the Feasibility Report of November 26, 1935, nor the letter of the Secretary of Interior of August 20, 1951, or of March 30, 1953, nor the erection and construction of Friant Dam and its appurtenant works, or the Madera Canal, or the Friant-Kern Canal, or the Delta-Mendota Canal, or any of them, nor the impounding of water at Friant Dam, nor the diversion thereof at or from Friant Dam, nor any other act of the United States or any of its officials or the other defendants, or of any or all of them, constituted an exercise of the power of eminent domain, so as to amount to a taking of all or any of the rights, as herein adjudged and decreed, of the plaintiffs and the class they represent or any of them, or of the Tranquillity Irrigation District or of the City of Fresno.

The construction and operation of Friant Dam and its appurtenant works was not done or constructed by the United States or any of its officials as an aid to navigation or for flood control, but the construction and operation of said dam and works and the acquisition of all properties and water rights therefor was and is essentially an irrigation project and in all its aspects is subject to

the Reclamation Act of 1902 as amended from time to time. [3797]

29. It is declared and decreed that: Tranquillity Irrigation District and its landowners, by virtue of riparian, prescriptive, or contractural rights are entitled to 12% in excess of 1360 second feet of the natural flow of the San Joaquin River measured at White House, for use on lands within said district, computed as follows:

(a) Said 12% over 1360 second feet at White House hereinabove and in this judgment mentioned, is based upon the adjusted flow of the San Joaquin River at Friant, which is the flow which would have occurred if there had been no storage back of Friant Dam and no storage behind any other dams upstream from Friant Dam on said river or any tributary thereof.

(b) The adjusted river flow for any day at Friant shall be computed by first adding the evaporation from the lake surface, the release to the San Joaquin River, the release to the Friant-Madera Canal and the release to the Friant-Kern Canal and adding to said sum the increase in storage at Millerton Lake or subtracting from said sum the decrease in storage at Millerton Lake, all expressed in cubic feet per second, the result representing inflow into Millerton Lake. To this inflow should be added the increase in storage of Kerckhoff Reservoir of the Pacific Gas and Electric Company and in all existing or future upstream reservoirs of Southern California Edison Co. and on said San Joaquin River and its tributaries and

from this should be deducted the decrease in storage in Kerckhoff Reservoir and of said existing and future [3798] upstream reservoirs of Southern California Edison Co. on said San Joaquin River or any of its tributaries, all expressed in cubic feet per second. This shall constitute the adjusted river flow at (below) Friant Dam.

(c) The computed daily natural inflow into Mendota Pool measured at White House in excess of 1360 cubic feet per second shall then be obtained by subtracting from the adjusted flow at Friant the intervening canal and ditch diversions from the San Joaquin River which would have been made by Gravelly Ford Canal, Aliso Canal, Edison Securities Co., Chowchilla Canal, Columbia Canal and Lone Willow grass rights if these diversions were being made. There shall also be subtracted "River Loss and Riparian Diversions" as determined by subtracting from the measured actual flow released at Friant, the measured actual flow at White House for the day being considered corrected for delay in river flow referred to in subparagraph (d) of paragraph 29 of this judgment.

The schedule for determining the above listed intervening canal and ditch diversions during each month of the year shall be that contained on pages 26 to 37 inclusive of Report No. 3 of the State of California "Definitions of Rights to the Water of San Joaquin River Proposed for Diversion to Upper San Joaquin Valley dated August, 1936", which said pages 26 to 37 inclusive of Report No.

3 are set forth as Exhibit 5 of this [3799] judgment and expressly made a part thereof.

(d) 12% of the flow into Mendota Pool as computed above in excess of 1360 cubic feet per second shall then be taken as the amount which Tranquillity Irrigation District and its landowners shall be entitled to divert from Fresno Slough. The date of availability of this water shall be two days later than the date of adjusted river flow at Friant as hereinabove mentioned in order to correct for delay in river flow between Friant and Mendota Pool.

(e) On days between October 1st and April 15th, when the natural flow of the San Joaquin River measured at White House, as herein computed, is less than 1500 cubic feet per second and between April 16th and September 30th when the natural flow of said river is less than 3000 cubic feet per second measured at White House and Southern California Edison Co. with the consent of Miller & Lux, Inc., or with the consent of the United States of America, if such right to consent has been assigned to it by said Miller & Lux, Inc., is storing water of Stevenson Creek in Shaver Lake, or at any time when the natural flow of the San Joaquin River measured at White House is less than 3000 cubic feet per second and Southern California Edison Co. with the consent of Miller & Lux, Inc., or the United States of America, if such right to consent has been assigned to it, is storing any of the water of said river or tributary thereof in any reservoir on said San

Joaquin River or its tributaries, [3800] Tranquillity Irrigation District shall be entitled to pump 100 cubic feet per second from Fresno Slough or 12% in excess of 1360 cubic feet per second of the natural flow of the San Joaquin River measured at White House as said natural flow is in this judgment hereinbefore computed, whichever is the greater.

(f) No deductions from said 12% of said flow of said river above 1360 second feet as herein determined shall be made on account of any flow of the Kings River whether measured at points on Fresno Slough or any other place.

(g) The right of Tranquillity Irrigation District to said 12% of 1360 second feet of the natural flow of said river as hereinabove computed shall not be limited by present or future pumping capacity of the Tranquillity Irrigation District from Fresno Slough but shall only be limited by the requirement that said 12% of said waters of said river be used now and in the future for reasonable and beneficial uses and purposes within said district and by reasonable and beneficial methods of diversion and use as reasonable and beneficial use and reasonable methods of diversion and use are hereinbefore and in these findings defined.

(h) As a physical solution defendants may substitute water from the Delta Mendota Canal of equal quality to the natural flow of the San Joaquin River for the natural flow of said San Joaquin River and Tranquillity Irrigation District shall have the option to pump without cost an equal

amount of waters from Fresno Slough originating from the Delta Mendota Canal in [3801] in lieu of its entitlement to the natural flow of said San Joaquin River.

That Tranquillity Irrigation District and its landowners, in addition to said right to 12% in excess of 1360 second feet of the natural flow of the San Joaquin River measured at White House, are entitled, as a matter of prior right, at the cost of not more than class one water as sold under the Central Valley Plan for irrigation use, in addition to said 12% in excess of said 1360 second feet of the natural flow of said San Joaquin River measured at White House, and in addition to its percolating water rights, to purchase all additional water reasonably required to supply its reasonable and beneficial needs before the defendants or any of them are entitled to take any water of the San Joaquin River out of the watershed or county of origin by way of the Friant-Kern Canal, which said right to purchase class one water shall be computed as follows:

When it appears, at the time of the estimate of each year's supply from the San Joaquin and from Kings River, that the total sum of water which will be supplied by the 12% in excess of 1360 second feet of the San Joaquin (measured at White House) added to the sum which is estimated to be supplied by the Kings River, added to the sum which is estimated to be supplied by the wells of Tranquillity, is not sufficient to meet the reasonable demands for crops of the crop pattern of

the preceding year, on the basis of the needs for each crop as shown by paragraph 23 hereof, then Tranquillity will be entitled to have the defendants enjoined and restrained from taking, by way of the Friant-Kern Canal, out of the watershed and county of origin, that amount of water which, in addition to the three sources of water above-described, would be required to satisfy the above-described [3802] needs for such crops, unless and until the defendants make available to Tranquillity for the current year substitute water, by way of the Delta-Mendota Canal or otherwise, of the same quality as its present water supply, and at a rate not to exceed that then currently charged for Class I water for irrigation from Millerton Lake.

29A. The watershed of the San Joaquin River lies entirely within the counties of Fresno and Madera and the origin of all of the waters of the San Joaquin River upstream from Mendota is in the counties of Fresno and Madera; all of the lands within the "Lee Line" and all of the lands within the City of Fresno and the metropolitan area of the City of Fresno which can be conveniently served with water for domestic and municipal purposes now and in the foreseeable future by the Fresno municipally owned water system, and all of the lands within the Tranquillity Irrigation District, and all of the lands within the Chowchilla Water District and all of the lands within the Madera Irrigation District are within one or the other of said counties, and all are in an area immediately adjacent to the San Joaquin River which can be

conveniently supplied with water from said San Joaquin River for all reasonable and beneficial uses of every nature by reasonable methods of diversion and use: And, the plaintiffs and the members of their class and each of them within the "Lee Line" and the Tranquillity Irrigation District, and the City of Fresno and the inhabitants and property owners within said areas are entitled, by reason of their location within the watershed and counties of origin as aforesaid, as a matter of substantive and statutory law of California, to the full natural flow of the San Joaquin River to satisfy their needs and rights to water for reasonable and beneficial uses, by [3803] reasonable methods of diversion and use, before any of the water of said river is diverted or stored for diversion, out of said counties of origin or out of said watershed or said areas of origin by means of Friant Dam or the Friant-Kern Canal or otherwise: After the satisfaction of the rights of the plaintiffs and their class, and of Tranquillity Irrigation District, and of the City of Fresno, all as herein elsewhere than this paragraph described, the said Chowchilla Water District and Madera Irrigation District and the inhabitants and property owners therein are entitled, as a matter of fact and substantive and statutory law of California, to the full natural flow of the San Joaquin River to satisfy their needs for reasonable and beneficial uses by reasonable methods of diversion and use, before any of the water of the San Joaquin River is diverted or impounded for diversion out of the watershed of said river or out of the said areas or

counties of origin, by means of the Friant-Kern Canal, or otherwise. The rights of the plaintiffs and their class and of Tranquillity Irrigation District and of the City of Fresno, which are declared in this paragraph, are in addition to the riparian, overlying, appropriative and prescriptive rights set forth and declared elsewhere in this judgment.

30. It is declared and decreed that the plaintiffs and the members of their class are entitled to the full natural flow of the San Joaquin River, or to the erection, construction, maintenance and operation of the physical solution hereinafter described, in satisfaction of, and to protect and supply water needed for their riparian and/or appropriative and/or prescriptive rights to the surface waters of the San Joaquin River between Friant and Gravelly Ford, and their overlying, and/or appropriative, and/or prescriptive rights to the underground percolating waters within the boundaries of Exhibit 3 of this judgment, all as such rights are declared and described in this judgment. [3804]

30A. When the San Joaquin River is in full natural flow past Friant, or when the physical solution decreed herein in Paragraph 32 hereof has been constructed and is in operation in the manner in said Paragraph provided, 30,000 acre feet per year is hereby declared and decreed to be the safe annual yield of underground water pumped from wells of the City of Fresno in the area supplied by the City of Fresno as that area existed on February 1, 1953; and in addition to the overlying rights of the City of Fresno herein elsewhere described, the rights of

the City of Fresno to secure surface water for domestic and municipal purposes from the San Joaquin River, supplemental to and in excess of said 30,000 acre feet annually, are prior and superior to any right of the United States, or of the defendant Districts, or of any of them, to divert and take any water of the San Joaquin River, or store the same for diversion, by means of Friant Dam, or Friant-Kern canal, or otherwise, out of the Counties of Fresno and/or Madera, and/or out of the watershed or area wherein the water of the San Joaquin River originates.

It is further declared and decreed that upon the City of Fresno constructing the necessary transportation works to bring such supplemental supply of surface water of the San Joaquin River to said City of Fresno from Friant Dam or from Friant-Kern Canal, or other place upon said river in said County of Fresno, the City of Fresno, subject to the rights, as herein declared, of the plaintiffs and their class and of the Tranquillity Irrigation District, will be entitled to an injunction restraining and enjoining the said defendants and their agents and employees, and/or the agents and employees of them, or any of them, and their successors and assigns, from diverting, or storing for diversion, by means of Friant Dam, or the Friant-Kern canal, or otherwise, any San Joaquin River water out of [3805] the watershed and the Counties of Fresno and/or Madera, or out of the area wherein the water of the San Joaquin River originates, until said supplemental water requirements of said City

of Fresno are met, at the rate per acre foot then charged for what is now known as Class I water for irrigation purposes.

In the event the City drills additional wells in any area annexed to said City since February 1, 1953, or which may be annexed in the future, or which is, or will be, served with water by said City of Fresno for municipal and domestic uses, there shall be added to said 30,000 acre feet the safe annual yield of any additional wells in determining the amount of supplemental water to which said City of Fresno is entitled as aforesaid. [3806]

31. The City of Fresno has no vested right enforceable at the present time under its complaint in intervention in this said action as regards its applications to appropriate waters of the San Joaquin River, which applications are as follows:

Applications filed by the City of Fresno

6771—8/20/1930
6772—8/20/1930
7134—12/5/1931
7135—12/5/1931

nor to enjoin the hearings before the State Engineer of the State of California (now State Water Rights Board) until a permit is granted by said State Engineer of the State of California (now State Water Board); and, the injunction pendente lite issued in the Ancillary proceedings brought by the City of Fresno and Tranquillity Irrigation District against the State Engineer and others, is hereby dissolved and said ancillary action of the

City of Fresno against Edmonston (Holsinger) et al., dismissed.

31A. It is declared and decreed that the filing of the hereinbefore mentioned applications to appropriate water with the State of California, numbers 23, 234, 1465, 2792, 5637, 5638, 5817, 5818, 5819, 5820, 5821, 5822, 9639, and 10750, did not confer upon the applicants therein and did not confer upon the United States by the assignment thereto, or the amendment of such applications by the United States, and did not confer upon any of the other defendants, or anyone, any right to appropriate, store and/or divert any waters of the San Joaquin River at or by means of Friant Dam and or Madera Canal and/or Friant-Kern Canal; that the right to appropriate water within the State of California is governed by the laws of the State of California and depends upon compliance with the laws of the State of California, and the granting [3807] of a permit therefor and a license; that there has been no compliance with the statutes of the State of California with respect to such permits and licenses and no permits or licenses have been issued to the United States, or at all, on said applications to appropriate water at Friant or to impound and/or store, and/or divert water at or by means of Friant Dam, and/or the Madera Canal and/or the Friant-Kern Canal, or at all; upon compliance with the statutory procedure and the obtaining of permits and/or licenses to appropriate water in California, only that water of the San Joaquin River can be appropriated and/or diverted at or by means of

Friant Dam or otherwise which is surplus, and in excess of the water required or needed to satisfy and fulfill the rights, as in this judgment described, of the plaintiffs and the members of their class, and of the Tranquillity Irrigation District, and of the City of Fresno; and any permits or licenses which may be granted by the State of California, or any of its agencies, are subject to the priority of the rights to water for municipal and domestic use and to the riparian, overlying, appropriative and prescriptive rights of the plaintiffs and the members of their class, the Tranquillity Irrigation District and the City of Fresno and each of them as herein declared and decreed, irrespective of whether or not any such permit or license contains any such restrictions; and any permits or license issued by the State of California on said applications to appropriate water are under the substantive and statutory laws of California relating to the watershed and county of origin subject to the prior and paramount right of the plaintiffs and the members of their class and of the Tranquillity Irrigation District and the City of Fresno and of the Chowchilla Water District and the [3808] Madera Irrigation District to receive all the water required or needed for reasonable and beneficial uses by reasonable methods of diversion and use before any water is diverted or impounded and stored for diversion out of the counties of Fresno and Madera by means of Friant-Kern Canal or otherwise. [3809]

32. It is adjudged and decreed that the defendants, and each of them, and the officers, agents, at-

torneys, employees, successors and assigns of all and each of them, are forever enjoined and restrained from impounding, or diverting, or storing for diversion, or otherwise impeding or obstructing the full natural flow of the San Joaquin River at or by means of Friant Dam, and/or the Friant-Kern Canal, and/or the Madera Canal; provided, however, that if said defendant United States and/or said Irrigation and Water Districts, at their sole cost and expense, within a reasonable time, construct, place in operation, maintain and operate the following physical solution, then such injunction shall not go into effect:

Such physical solution shall consist of a series of ten ponds in the natural channel of the San Joaquin River between Friant Dam and Mendota Pool to be created by construction of ten check dams with collapsible gates, in accordance with the plans set forth in Exhibit 4 hereof, said dams to be approximately locationed as follows:

Check Dam No. 1: Left abutment bearing South 14° 0′ West from NE corner (projected NE corner), Section 35, Township 11 South, Range 20 East, M.D.B. & M., a distance of 2,480 feet.

Check Dam No. 2: Left abutment bearing North 50° 0′ East from SW corner, Section 2, Township 12 South, Range 20 East, M.D.B. & M., a distance of 2,750 feet.

Check Dam No. 3: Left abutment bearing South 42° 30′ West from NE corner, Section 21, Township 12 South, Range 20 East, M.D.B. & M., a distance of 710 feet.

Check Dam No. 4: Left abutment bearing North 54° 30′ West from SE corner, Section 29, Township 12 South, Range 20 East, M.D.B. & M., a distance of 3,670 feet.

Check Dam No. 5: Left abutment bearing South 3° [3810] 0′ East from NW corner, Section 30, Township 12 South, Range 20 east, M.D.B. & M., a distance of 2,600 feet.

Check Dam No. 7: Right abutment bearing South 53° 45′ West from NE corner, Section 32 North, Township 12 South, Range 19 East, M.D.B. & M., a distance of 3,440 feet.

Check Dam No. 9: Left abutment bearing North 16° 35′ East from SW corner, Section 3, Township 13 South, Range 18 East, M.D.B. & M., a distance of 1,820 feet.

Check Dam No. 10: Right abutment bearing South 64° 15′ West from NE corner, Section 8, Township 13 South, Range 18 East, M.D.B. & M., a distance of 5,300 feet.

Check Dam No. 11: Left abutment bearing North 79° 31′ West from SE corner of Section 2, Township 13 South, Range 17 East, M.D.B. & M., a distance of 1,860 feet.

Check Dam No. 12: Left abutment bearing North 28° 30′ East from SW corner, Section 9, Township 13 South, Range 17 East, M.D.B. & M., a distance of 960 feet.

Said dams shall be capable respectively of maintaining water levels in the San Joaquin River when gates are raised at the following minimum depths above existing natural stream bed at the dam, and

of ponding the water in the San Joaquin River to at least the following distances upstream from said dams:

Check Dam	Minimum Depth of Water at Dam Feet	Minimum Distance Ponded Upstream Miles
1	3.0	1.3
2	3.6	1.2
3	3.5	2.3
4	6.0	2.0
5	6.0	2.0
7	9.0	3.0
9	7.0	3.6 [3811]
10	5.5	2.7
11	5.0	2.6
12	5.5	3.1

Overflow capacity of overflow sections of all dams with gates raised shall be four hundred (400) second feet. Overflow capacity of combined overflow and non-overflow sections with gates raised shall be seven hundred fifty (750) second feet for all dams. Capacity of overflow section with gates of overflow section down shall be 2,000 second feet minimum. When all gates are down, said dams shall be capable of passing (1) all future flood releases from Friant Dam, and (2) scouring releases from Friant Dam of 2,000 to 4,000 second feet with full scouring coverage of the entire bed and banks of ponded areas in the natural bed of the San Joaquin River.

All check dams shall be designed and constructed with treated wooden collapsible gates, concrete deck

and abutments, foundation type, and operating equipment including traveling Gantry Cranes to raise and lower said collapsible dams of the type shown on Exhibit 4 of this judgment.

In "Typical Upstream Elevation" as shown on Exhibit 4 of this judgment, the abutment at the left bank of the river at Check Dams 1, 2, 3, 4, 7, 9, 10 and 11, and at right bank at Check Dams 5 and 12, shall be built in steps so as to permit laying of rails to support Gantry Crane when being taken out of service.

Steel frame Gantry Cranes shall be provided for raising and lowering all collapsible gates. Crane to have sufficient clearance between its tracks and top of gates and walls and tops of abutment steps adjacent to non-overflow [3812] section of dams, or to abutment on which Gantry is to be stationed during flood flows. (Gantry Crane to be stationed at left abutment at Check Dams 1, 2, 3, 4, 7, 9, 10 and 11 and right abutment at Check Dams 5 and 12.)

Rails shall be extended on incline from deck of dam to top of abutments mentioned above.

To provide flexibility, the reinforced concrete deck for all dams is to be laid in panels of appropriate width, with joints running up and downstream.

Gantry Cranes are to be self-propelling with gasoline engine power unit of the general type shown on Exhibit 4. They are to be supported on wheels which will run on 40 pound rails. Rails to be placed on concrete deck of each dam and abutment as directed above. Gantry Cranes of the general type

shown on Exhibit 4 of this Judgment shall be individually designed for Dams 5, 7, 9, 10, 11 and 12, and for Dams 1 to 4 inclusive. Wider collapsible gates and the raising of the same by hydraulic jacks controlled from the bank, provided they perform the same functions as the Gantry Cranes and gates herein and in this judgment set forth and described, may be substituted for the Gantry Cranes and gates herein and in this judgment described.

The check dams at all points along the river from Friant Dam to Check Dam No. 12, and including all appurtenances, shall be capable of safely passing flood discharges expected to occur in the future in the San Joaquin River below Friant Dam.

Said collapsible gates of all dams shall be kept raised at all times during the year to ponding position and sufficient water released from Friant Dam at all times during the year to pond the water back of [3813] all dams to the distances hereinbefore set forth in this judgment, with a constant minimum flow of five (5) second feet flowing over the last dam downstream from Friant Dam (i.e., Check Dam No. 12) except during (1) flood flows, (2) scouring releases, or (3) when temporary releases of from four to eight days continuous duration in any one month for any other purposes are to be made in excess of the total overflow capacity of said dams. The defendants, or any one or more of them, may construct dams or Gantry Cranes of more permanent, elaborate or costly types, provided such dams or cranes perform the same functions as the dams of type shown on Exhibit 4 of this judgment, and

that the substituted dams will safely pass, when raised, the minimum amounts hereinbefore in this judgment set forth, will safely pass all flood dischanges, and will allow passage of the scouring releases in this judgment mentioned to cover the entire bed and banks of ponds, provided, however, that the plans therefor have the prior approval of this Court, after notice and hearing.

Location of said check dams may be constructed short distances downstream if defendants so desire, provided that the depth of ponded water at the herein designated location for each of said check dams are the minimum ponded distance upstream from said locations herein given, remain approximately the same.

In the event the river bottom has degraded at the location of any dam since the survey of the profile of the river shown on Exhibit 4 of this judgment, it shall be the duty of the defendants to erect the dam to sufficient height so as to pond the water to the depth hereinabove mentioned at the damsite equal to what the water would have been ponded had the river bottom not degraded since the time of the survey shown on Exhibit 4 of this judgment. [3814]

Exhibit 4 consists of two pages of photo offset reproductions which are expressly made a part of this judgment.

The gates to said dams shall be lowered by defendant United States of America and defendant Bureau officials and employees, and flushing or scouring releases of at least 4,000 second feet for up to twenty-four (24) hours for each flushing shall

be released by defendant United States of America and defendant Bureau officials and employees from Friant Dam in June and August of each year, and an additional twenty-four (24) hour flushing release of at least 2,000 second feet on or about April 1st of years of subnormal run-off as determined by the Bureau of Reclamation's Spring estimates in order to keep the river bottom and banks free of accumulated silt, fines, algae and organic seal and to force additional water into the underground. Whenever said river bottom and banks are free of or are freed from said accumulated silt, fines, algae and organic seal, said minimum flushing releases may be stopped.

The times and amounts of scouring releases may be changed from time to time on order of court upon appropriate showing, after notice that the same are not needed; and, after the construction of the above described works for a physical solution, upon appropriate showing after notice, the Court may modify said plan of physical solution by the requirement for additional dams of either stationary or collapsible type, or the substitution of one type of dam for another, or otherwise alter said plan and/or the operation thereof as justice may require.

All costs of constructing, repairing, replacing and operating said collapsible dams and appurtenances, including easement and rights-of-way, and furnishing of water for said ponds shall be borne by the defendant United States of America and/or defendant Districts. [3815]

33. That in addition to the five second feet of water herein decreed to pass over the last dam in said plan of physical solution provided for in paragraph 32 of this judgment, defendant United States of America, its officers, agents, attorneys and employees, including defendant Spencer, Blote and Sullivan and their successors in office and employment, are forever enjoined from storing or diverting the natural flow of the San Joaquin River at Friant Dam so as to in any way diminish or interfere with the said 12% of the excess of 1360 second feet of the natural flow of the San Joaquin River measured at White House as computed in paragraph 29 of this judgment, provided, that said injunction mentioned in this paragraph shall not go into effect if said defendants, as a part of the physical solution by this said court substitute without charge an equal amount of the water, or equal quality, originating fro the Delta-Mendota Canal for that portion of the natural flow of said San Joaquin River to which said Tranquillity Irrigation District and its landowners are decreed to be entitled to under paragraph 29 of this judgment and, provided further, that as a part of said additional physical solution, Tranquillity Irrigation District and its landowners may and are allowed by said defendants United States, and its officers, agents and employees above named to pump said equal amount of waters, without cost, originating from the Delta-Mendota Canal, from Fresno Slough in lieu of said natural flow of said San Joaquin River measured at White House.

34. The term "surface flow," and the term "full

natural flow," as used in these findings and conclusions and judgment, each means the natural flow of the San Joaquin River past Friant, as it flowed prior to the time of the erection and construction of Friant Dam and [3816] prior to the impounding of any water thereat or by means thereof, as adjusted by vested appropriative and/or prescriptive rights, if any, at or above Kerchoff Reservoir, adverse to the rights of the named plaintiffs or the members of their class or any of them; provided, however, that the natural flow as applicable to Tranquillity Irrigation District is as is set forth in Paragraph 29 hereof.

35. That the plan of physical solution herein provided and decreed will result, when constructed, in reasonable and beneficial use of the waters of the San Joaquin river by reasonable methods of diversion and use.

That neither the plan of physical solution proposed by the State of California nor the plan proposed by defendant officials or other officials of the United States would result in a reasonable and beneficial use of the water of the San Joaquin river by reasonable methods of diversion and use, and neither plan would supply water at the times or in the quantities sufficient to satisfy the prior and paramount rights, as herein set forth, of plaintiffs and the members of their class, or any of them, or the Tranquillity Irrigation District, or the City of Fresno, for reasonable and beneficial uses by reasonable means of diversion and use as herein defined, or at all; and either of said plans, if put into operation, would cause great, immediate, irrepar-

able and continuing injury to all of the lands lying within the "Lee Line" and to the owners thereof and to the lands and the owners thereof within the Tranquillity Irrigation District, and to the City of Fresno and its inhabitants.

36. That the named plaintiffs are entitled to a contribution from other members of the class which they represent for attorneys' fees, engineers' fees and other expenses, and costs which they have incurred or paid in the course of [3817] this action.

That plaintiffs and intervenors Tranquillity Irrigation District and the City of Fresno are each entitled to recover their costs of suit from all defendants except defendant United States of America, defendant officials, and State of California, taxed in the amount of $13,636.63.

37. Continuing jurisdiction is hereby retained for the purpose of enforcing the within judgment and decree; and, after the construction and operation of the plan of physical solution herein decreed, to modify or change the same as experience may show to be necessary to carry out, protect and enforce the rights and duties of the respective parties herein adjudged and decreed.

Dated: This 22nd day of May, 1957.

/s/ PEIRSON M. HALL,
Judge of the United States
District Court. [3818]

[Note: Exhibit No. 1 is the same as Defendants' Exhibit A9A-1 set out in the Book of Exhibits, except for the crayon markings.]

EXHIBIT No. 2

J. A. Ross
Civil Engineer and
Licensed Land Surveyor
Fresno, California
May 18, 1956

Description of certain lands riparian to the San Joaquin River

Commencing at the Quarter Corner on the North Side of Section 8, T11S, R21E, M.D.B.&M., and running thence as follows: south ½ mile, west ½ mile, south ¼ mile; west ¼ mile a little more or less to a point on the westerly right of way line of the S.P. R.R.; thence northeasterly, along said right of way line, ⅛ mile more or less to a point; thence northwesterly to the easterly line of that certain parcel of property standing in the name of the State of California; thence southwesterly along the easterly line of said property, to its intersection with the north and south center line of section 7, 11/21; thence continuing as follows: south ¼ mile; east ⅛ mile more or less to the westerly right of way line of the S.P. R.R.; along the said right of way line to its intersection with the south line of the NW¼ of section 18, T11S, R21E, M.D.B.&M.; west to the east line of the W½ of the NW¼ of said Section 18; north 1/16th mile; west ¼ mile more or less to the west line of Section 18; thence southwesterly and southerly to a point which is ¼ mile West and ¼ mile N of the SE corner of Section 13, 11 20; thence East ¼ mi., thence south 2 miles; thence

Exhibit No. 2—(Continued)

W ¼ mile; thence S ¼ mile to the south line of section 25-11/20; thence east ¼ mi. to the S.E. corner of section 25, 11/20; south ½ mile, more or less, along the east line of section 36, said township and range, to its intersection with the westerly right of way line of the S.P. R.R.; Thence southwesterly, along said westerly right of way line, to its intersection with the south line of said section 36; west to the S.E. [3820] corner of the S.W.¼ of said section; north ¼ mile; west ½ mile; south ¼ mile; east ½ mile; south ⅛ mile; and west ½ mile to the west line of section 1, T12S, R20E; south ¾ mile; thence west ⅛ mile; south ⅛ mile to the south line of section 2; thence west ⅞ mile to the N.W. corner of Section 11, 12/20; south 1 mile; west 1 mile; south ⅜ mile; west ⅛ mile more or less to the county road; southerly and easterly, along the County Road to the quarter corner on the east side of section 16, 12/20; south ¼ mile; east ⅛ mile more or less to the line between the properties of Philip M. Rice and H. E. Howe, et al, as they are delineated on that certain map of this territory prepared in 1939 by the Water Project Authority of the State of California; thence southerly and southeasterly, along said division line to a point on the north line of the SW¼ of section 22, 12/20 which is ⅛ mile east, more or less, from the quarter corner on the west side of said section; thence west ⅜ mile; north ⅛ mile; southwesterly ⅛ mile more or less to the westerly boundary of that certain parcel of property indicated on the before-mentioned map as

Exhibit No. 2—(Continued)

the property of Kathleen Miller; thence south ¼ mile more or less to a point on the river bluff; thence southwesterly, along the said bluff line to a point which is ¼ mile south and ¼ mile east of the N.W. corner of section 28, 12/20; thence west ½ mile; south ⅝ mile; and southwesterly, along the bluff line, to its intersection with the north and south center line of section 32, 12/20, ⅛ mile, a little more or less south of the north line of said section; thence south to the south line of the north ½ of the N.W. ¼ of said section; west ¼ mile; south ¼ mile; west 1 mile; north ¼ mile, more or less to the San Joaquin River Bluff Line; thence northerly and westerly, to the N.W. corner of section 31, 12/20; west ¼ mile; north ¼ mile; west ¼ mile; south 1¼ miles more or less to the quarter corner on the south side of section 36, 12/19; thence west ½ mile; north ½ mile; and west 1½ miles to the center of section 34, 12/19; north ⅜ mile more or less to the River Bluff; northwesterly, along the River Bluff, ¼ mile more or less to the west line of the east ½ of the N.W.¼ of said section 34; thence south ½ mile more or less, to the north line of the south half of said section 34; thence west, ½ mile more or less to the easterly right of way line of the A. T. & S.F. Railway; thence northwesterly, along said right of way to its intersection with the north and south center line of section 33, 12/20; thence south to the center of said section; thence west ½ mile; south ¼ miles; west ¼ mile; north 1000 feet more or less; west ¼ mile; south ¼ mile, west to the S.P. R.R.

Exhibit No. 2—(Continued)

Co, right of way; northwesterly, along said right of way 3/8 mile, more or less, to the San Joaquin River Bluff; thence northeasterly, along said bluff to its intersection with the County Road; thence northwesterly, along said road 3/16 mile more or less to a point; thence southwesterly, 1/4 mile a little more or less to a point on the westerly right of way line of the S.P. R.R.; thence southeasterly along said right of way line 1/4 mile to a point; thence southwesterly 200 feet, a little more or less, to a point on the westerly right of way line of the State Highway; thence northwesterly 1/4 mile; thence southwesterly along the beforementioned Bluff line, 1/8 mile, more or less to a point which is 1/4 mile north of the south line of Section 31, 12/19; thence east 1/4 mile and south 1/4 mile to a point on the north line of Section 5, 13/19; thence west 1/4 mile, more or less, to the northwest corner of said section; thence south 1/2 mile; west 1 mile and north 1/4 mile, more or less to the Epstein Ditch; thence southwesterly, along the Epstein Ditch, to its intersection with the north and south center line of section 1, T13S, R18E, thence south to the center of said section; west 3/4 mile; north 1/8 mile; west 1/4 mile; north 3/8 mile to the quarter corner on the north side of section 2, 13/18; west 7/16ths mile; south 1/4 mile; west 1/16 mile; south 1/2 mile; west 1/4 mile; south 1/8 mile; west 1/4 mile; thence south 1/8 mile more or less to the quarter corner on the north side of section 10, 13/18; thence west 1 mile; south 1/8 mile; west 1/8 mile; south 1/8 mile; west 1/8 and south 1/4 mile to

Exhibit No. 2—(Continued)

the north line of the S.W.¼ of Section 9, 13/18; thence west to the west line of said section 9; thence south ¼ mile; west 1 mile; north ¼ mile; west ½ mile; north ¼ mile; west ½ mile; south ¼ mile; west ¾ mile; north ¼ mile; west 13/16 mile; south ¼ mile; west 7/16ths mile; south ¼ mile; west ¼ mile; and south ¼ mile to the north line of section 15, 13/17; thence west 1¾ miles to the N.W. cor. of section 16, said township and range; thence south 1 mile; west 2 miles and thence southwesterly to the quarter corner on the west side of section 25, 13/16; thence north 3½ miles; east 1 mile; north 1 mile; east 1¼ miles; south 1 mile, east 3 miles; north ¼ mile; east ½ mile; north ¼ mile; west ¼ mile; north ½ mile to the quarter corner on the north side of section 2, 13/17; east 1½ miles; south ¾ miles; east ¾ mile; south ¼ mile; east 1¼ miles to the S.E. cor. of section 5, T13S, R18E, thence north ½ mile to the quarter corner on the east side of section 5, 13/18; east ½ mile; north ¼ mile; east 1 mile; north ¼ mile; to the quarter corner on the north side of section 3, 13/18; thence east to the S.E. corner of the west ½ of the SW¼ of section 34, 12/18; thence north ¼ mile; east ¼ mile; north ¼ mile to the center of section 34, 12/18; thence east 1¼ miles; south ½ mile; east ¼ mile; north 1 mile to the NW cor. of section 36, 12/18; thence east 1 mile; south 1 mile to the SE cor. of section 36; east ¼ mile; north ⅜ miles, thence northeasterly to a point on the westerly line of the California State Highway ⅝ miles a little more or less southeasterly

Exhibit No. 2—(Continued)

from the intersection of said line with the north line of section 31, 12/18; thence southeasterly along said highway to the northerly bank of the San Joaquin River; thence southwesterly 1/16 mile; southeasterly 1/32 mile; northeasterly 1/16 mile; north ¼ mile to a point which is ¼ mile south and ¼ mile west of the SE cor. of section 30, 12/19; thence west ¼ mile to the County Road; thence northwesterly, along said County Road to a point which is ¼ mile east of the west line of section 31; thence north ⅛ mile to the north line of section 31, 12/19; thence east 1 mile; south ⅛ mile; thence southeasterly to a point which is 3/16ths miles south of the north line of section 32, 12/19; thence south 1/16 mile; to a point which is ¼ mile south and ½ mile west of the NE cor. of section 32, 12/19; thence east ¼ mile; north ¼; and thence east ½ mile, more or less to the A.T.&S.F. Railway; thence northwesterly, along the A.T.&S.F. Railway, ¼ mile more or less to its intersection with the west line of section 28, 12/19; thence north ⅜ mile, more or less, to the quarter corner on the west side of section 28, 12/19; thence east ½ mile; north ½ mile; east 1½ miles south ¼ mile; east ½ mile to the center quarter corner of section 26, 12/19; thence north ¼ mile; east ¼ mile; north ¼ mile; east ½ mile; south ¼ mile more or less, to the San Joaquin River Bluff, thence northeasterly along said Bluff ¼ mile more or less; thence north ¼ miles; to the north line of section 25, 12/19; thence east, along the north line of section 25, to the SW corner of the east ½

Exhibit No. 2—(Continued)

of the SE¼ of section 24, 12/19; thence north ½ mile; east ¼ mile; south ¾ mile, east ½ mile; south ¼ mile to the center quarter corner of section 30, 12/20; thence east ½ mile; north ¼ mile; east ¼ mile; north ¼ mile; east ¼ mile to the north quarter corner of section 29, 12/20; thence north 1 mile; east 1 mile; north 1½ miles, to the center of section 9, 12/20; east ½ mile; north 1 mile; east ¼ mile; north ½ mile; east ¾ mile to the SE cor. of section 34, 11/20; thence north ¾ mile; east ¼ mile; north ¼ mile; east ½ mile; north ¼ mile; east ¼ mile; to the east line of section 26, 11/20; thence north 1¾ miles to the northeast corner of section 23, 11/20; thence east ¼ mile; north ½ mile; east ¼ mile; north ½ mile; east ½ mile to the NE cor. of section 13, 11/20; thence north ½ mile; east ¼ mile; north ½ mile to the north line of section 7, 11/21; thence east 1⅜ miles more or less to the point of commencement.

In event of any discrepancy between this said Exhibit 2 and Exhibit 1, Exhibit 1 shall be taken as correct and govern.

EXHIBIT No. 3

Legal Description: Topographic Boundary of Alluvial Cone and Minimum Area Within Which Ground-Water Presently or Potentially Is Influenced By Flow of San Joaquin River

Commencing at a point which is described as the NW Corner of Sec. 6, T13S, R15E, Mt. Diablo Base Line and Meridian.

Exhibit No. 3—(Continued)

Running thence easterly along township line 2½ miles to N¼ Cor. Sec. 4, thence southerly ½ mi. to Center Sec. 4, thence easterly 4 mi. to Center Sec. 6, T13S, R16E.

Running thence northerly ½ mi. to N.¼ Cor. Sec. 6 thence easterly 1½ mi. to NE Cor. Sec. 5, thence easterly approximately 1000 ft. to SW Cor. Sec. 33, T12S, R16E.

Running thence northerly 1 mi. to NW Cor. Sec. 33, thence easterly 2 mi. to NW Cor. Sec. 35, thence northerly ½ mi. to W.½ Cor. Sec. 26, thence easterly 2 mi. to E ½ Cr. Sec. 25 on Range line between T12S, R16E and T12S, R17E.

Running thence northerly ½ mi. to NE Cor. Sec. 25, thence Easterly 6 mi. to NE Cor. Sec. 25, thence northerly 1 mi. to NE Cor. Sec. 24, T12S, R17E.

Running thence 2 mi. easterly to NE Cor. Sec. 20, T12S, R18E, thence northerly 1 mi. to NW Cor. Sec. 16, thence easterly 1 mi. to NE Cor. Sec. 16, thence northerly ½ mi. to W.¼ Cor. Sec. 10, thence easterly 1 mi. to E.¼ cor. Sec. 10, thence Southerly ½ mi. to SE Cor. Sec. 10, thence easterly 2 mi. to NE Cor. Sec. 13, thence southerly 1 mi. to SE Cor. Sec. 13, on Range Line between T12S, R18E, and T12S, R19E.

Running thence easterly 5 mi. to SE Cor. Sec. 14, thence northerly 1 mi. to NE Cor. Sec. 14, T12S, R19E, thence easterly 3 mi. to NE Cor. Sec. 17, T12S, R20E, thence northerly 1 mi. to NW Cor. Sec. 9, thence easterly to N¼ [3821] Cor. Sec. 9, thence northerly 1 mi. to N.¼ Cor. Sec. 4 on Town-

Exhibit No. 3—(Continued)

ship line between T12S, R20E and T11S, R20E.

Running thence easterly along Township line 1 mi. to N.¼ Cor. Sec. 3, thence northerly ½ mi. to Center Sec. 34, T11S, R20E, thence easterly ½ mi. to E¼ Cor. Sec. 34, thence northerly ½ mi. to NE Cor. Sec. 34, thence easterly 1 mi. to NE Cor. Sec. 35, thence northerly 3 mi. to NE Cor. Sec. 14, thence easterly 1 mi. to NE Cor.

Running thence northerly 1 mi. to NW Cor. Sec. 7, thence easterly 1 mi. to NE Cor. Sec. 7, thence Southerly 4 mi. to SE Cor. Sec. 30., thence easterly 1 mi. to SE Cor. Sec. 29, thence southerly 1 mi. to SE Cor. Sec. 32, T11S, R21E.

Running thence westerly approximately 400 ft. to Northeast (NE) Cor. Sec. 5, T12S, R21E, thence southerly 1 mi. to SE Cor. Sec. 5, thence westerly ½ mi. to S.¼ Cor. Sec. 5, thence southerly 3 mi. to S.¼ Cor. Sec. 20, thence westerly to SW Cor. Sec. 20, thence southerly 2 mi. to SE Cor. Sec. 31, T12S, R21E.

Running thence westerly approximately 1000 ft. to NE Cor. Sec. 6, T13S, R21E, thence westerly ½ mi. to N.¼ Cor. Sec. 6, thence southerly 1 mi. to S.¼ Cor. Sec. 6, T13S, R21E.

Running thence westerly 1 mi. to N.¼ Cor. Sec. 12, T13S, R20E, thence southerly 1 mi. to S.¼ Cor. Sec. 12, thence westerly ½ mi. to SW Cor. Sec. 12, thence southerly 1 mi. to SE Cor. Sec. 14, thence westerly 1 mi. to NW Cor. Sec. 23, thence southerly ½ mi. to E.¼ Cor. Sec. 22, thence westerly 1 mi. to W¼ Cor. Sec. 22, thence southerly ½ mi. to SW

Exhibit No. 3—(Continued)

Cor. Sec. 22, thence westerly ½ mi. to N¼ Cor. Sec. 28, thence southerly ½ mi. to Center of Sec. 28, thence westerly 1 mi. to center Sec. 29, thence southerly ½ mi. to S.¼ Cor. Sec. 29, thence westerly ½ mi. to NW Cor. Sec. 32, thence southerly 1 mi. to SE Cor. Sec. 32, thence westerly 1 mi. to SW Cor. Sec. 31, T13S, R20E.

Running thence along Township Line westerly 1 mi. to NW Cor. Sec. 1, T14S, R19E, thence southerly ½ mi. to W. ¼ Cor. Sec. 1, thence westerly 2 mi. to W.¼ Cor. Sec. 3, thence southerly ½ mi. to SW Cor. Sec. 3, thence westerly 1 mi. to SW Cor. Sec. 4, thence southerly ½ mi. to N.¼ Cor. Sec. 8, thence westerly 1½ mi. to center Sec. 7, thence southerly 1½ mi. to S.¼ Cor. Sec. 18, T14S, R19E.

Running thence westerly 1 mi. to S.¼ Cor. Sec. 13, T14S, R18E, thence southerly 1 mi. to S.¼ Cor. Sec. 24, thence westerly 1½ mi. to NW Cor. Sec. 26, thence southerly 1 mi. to SW Cor. Sec. 26, thence westerly ½ mi. to N.¼ Sec. 34, T14S, R18E.

Running thence 2 mi. southerly to S.¼ Cor. Sec. 3, T15S, R18E, thence westerly ½ mi. to SW Cor. Sec. 3, thence southerly 1 mi. to SW Cor. Sec. 10, thence westerly 3 mi. to NW Cor. Sec. 18, T15S, R18E.

Running thence southerly ½ mi. to E.¼ Cor. Sec. 13, T15S, R17E, thence westerly 5 mi. to W.¼ Cor. Sec. 17, thence southerly ½ mi. to SW Cor. Sec. 17, T15S, R17E.

Running thence westerly 9 mi. to SW Cor. Sec. 14, T15S, R15E, thence northerly 3 mi. to NW Cor.

Exhibit No. 3—(Continued)

Sec. 2, thence westerly along Township Line 1 mi. to NW Cor. Sec. 3.

Running thence northerly 2 mi. to NW Cor. Sec. 27, T14S, R15E, thence westerly 1 mi. to NW Cor. Sec. 28, thence northerly 1 mi. to NW Cor. Sec. 21, thence westerly 1 mi. to SW Cor. Sec. 17, thence northerly 1 mi. to SW Cor. Sec. 8, thence westerly 1 mi. to SW Cor. Sec. 7, T14S, R15E.

Running thence northerly along Range Line between R14E and R15E, 8 mi. to NW Cor. Sec. 6, T13S, R15E, which is point of beginning.

Containing a total area of 313,640 acres, more or less.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that the United States of America hereby appeals to the United States Court of Appeals for the Ninth Circuit from that certain Corrected and Amended Judgment which was docketed and entered herein on the 20th day of June, 1957, as against the United States of America.

Dated this 27th day of June, 1957.

/s/ J. LEE RANKIN,
Solicitor General,
/s/ WILLIAM H. VEEDER,
Attorney, Dept. of Justice,
Attorneys for Appellant.

[Endorsed]: Filed June 27, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that Clyde H. Spencer, Regional Director; Martin H. Blote, Regional Operations Superintendent; Edwin F. Sullivan, Fresno Supervisor; both in their capacities as individuals and in their official capacities, hereby appeal to the United States Court of Appeals for the Ninth Circuit, from that certain Corrected and Amended Judgment which was docketed and entered herein

on the 20th day of June, 1957, as against these pleading defendants.

Dated this 27th day of June, 1957.

/s/ J. LEE RANKIN,
Solicitor General,
/s/ WILLIAM H. VEEDER,
Attorney, Dept. of Justice,
Attorneys for Appellant.

[Endorsed]: Filed June 27, 1957.

[Title of District Court and Cause.]

NOTICE OF MOTION FOR NEW TRIAL; TO ALTER OR AMEND AMENDED JUDGMENT ENTERED JUNE 20, 1957; TO RECEIVE NEW EVIDENCE EFFECTUATE JUDICIAL KNOWLEDGE AND TO RELIEVE MOVING PARTY FROM THE AMENDED JUDGMENT UPON THE GROUND OF NEWLY DISCOVERED EVIDENCE WHICH BY DUE DILIGENCE COULD NOT HAVE BEEN DISCOVERED IN TIME TO MOVE FOR A NEW TRIAL UNDER RULE 59(b) [3825]

To the plaintiffs, Everett G. Rank, et al., the City of Fresno, a municipal corporation and Tranquillity Irrigation District, a public corporation, and to Claude L. Rowe, Esq., their attorney:

You and each of you will please take notice that on Monday, July 22, 1957 at the hour of 10:00 A.M.,

or as soon thereafter as its counsel may be heard, defendant Southern San Joaquin Municipal Utility District, a public corporation, (hereinafter called this moving District), E. L. Gleichmer, E. B. Antonell, Robert H. Hiett, Jr., Milo Marshall, and E. J. Girard as members of its present Board of Directors, and Albert Davis, Frank Panero and D. L. Shifflep, as formers directors thereof who were originally named as defendants herein, to the extent, if any, that said individuals are bound by that certain amended judgment in the consolidated proceedings set forth in the caption hereof which was entered herein on June 20, 1957, severing themselves from all other defendants, will appear in the courtroom of Honorable Peirson M. Hall, United States District Judge, second floor Courthouse and Post Office Building, 312 North Spring Street, Los Angeles 12, California, through their attorneys of record as hereinafter set forth, and will then and there move said Honorable Court, in the alternative, as follows:

1. For an order granting said moving defendants a new trial upon the issue of the validity of the water contracts entered into between the United States of America by and through the Bureau of Reclamation of the Department of the Interior and this moving District and for a determination and judgment that all of the plaintiffs and each of them are finally concluded and bound by a final judgment of the Superior Court of the State of California in and for the County of Kern being No. 52763, entitled Southern San Joaquin Municipal [3826] Utility District, etc., plaintiff vs. All Parties and Per-

sons having or Claiming to Have any Interest in the Approval and confirmation of the proceedings for the Organization of the Southern San Joaquin Municipal Utility District, and all parties and persons in any way interested in that certain contract dated October 18, 1945, entitled, "Contract for the Furnishing of Water to Southern San Joaquin Municipal District", and bearing symbol and number 11R-1460; and /or that certain contract dated May 13, 1948, entitled, "Contract Amending Contract Symbol and Number 11r-1460 and dated October 18, 1945, Between the United States and the Southern San Joaquin Municipal Utility District, State of California for water service,"; and/or that certain contract dated May 13, 1948, entitled, "Contract Between the United States and the Southern San Joaquin Municipal Utility District providing for the Construction of a Distribution System," and bearing symbol and number 175r-1434; made by the United States of America and the said Southern San Joaquin Municipal Utility District, and that, by reason thereof, this moving District and its former and present Directors are entitled to judgment against all plaintiffs and each of them. That the water contracts between the United States and this moving District heretofore identified and described, including but not limited to the contract which was referred to and a partial copy of which was annexed to the complaint herein and marked as Exhibit "B" and each and every term and provision thereof are in all respects valid and authorized by law and that each and every term and provision

thereof is in all respects legal, valid, subsisting and binding upon, against and in favor of this moving [3827] District and the United States of America and each and all of the plaintiffs herein;

2. To alter and amend the amended judgment herein which was entered on June 20, 1957 in the following particulars and respects:

(a) To amend the amended and corrected findings of fact and conclusions of law as follows:

(1) By adding a new finding of fact to be numbered 34, on or to follow page 65a to read as follows:

Finding 34. That the allegations contained in paragraph VII of the Complaint and each and every thereof with respect to the contracts entered into between the United States of America and Southern San Joaquin Municipal Utility District are untrue. That it has been finally adjudicated by the Superior Court of the State of California in and for the County of Kern in an action Numbered 52763 entitled Southern San Joaquin Municipal Utility District, etc., plaintiff vs. All Parties and Persons, etc., et al., that the contracts made between Southern San Joaquin Municipal Utility District and the United States of America consisting of the contract dated October 8, 1945 identified under Symbol and Number 11r-1460 (a true copy of which is annexed to the Complaint marked Exhibit "B" and by such reference incorporated therein) and the amendment to said contract dated May, 13, 1948 and a subsequent contract between the same

parties dated May 13, 1948 and bearing Symbol and Number 175r-1434, [3828] each and every of which contracts provide for the delivery by the United States through the Bureau of Reclamation of the Department of the Interior to Southern San Joaquin Municipal Utility District of specified amounts and classes of water through the Friant-Kern Canal in consideration of the payment by said District to the United States of specified amounts in money are, and each of them, and each and every term and provision thereof are in all respects valid, legal, subsisting and binding upon, against and in favor of the parties to said contract. That it has been finally adjudicated by the Supreme Court of the State of California in two decisions made and entered on January 24, 1957, entitled respectively as the Ivanhoe Irrigation District vs. All Parties and Persons, etc., reported in 47 A.C. 603 at page 612 and Santa Barbara etc. Agency vs. All Persons and Parties, etc., reported in 47 A.C. 701 at page 705, that a final judgment of the form and type as that decided in case 52763 by the Superior Court of Kern County, California is a judgment In Rem and is binding upon the World at large. That by reason thereof the judgment of the Kern County Superior Court aforesaid in action No. 52763 is res judicata and binding upon each and every of the plaintiffs herein.

(2) By adding to the findings of fact on the Complaint in Intervention of Tranquillity Irrigation District a new finding to be numbered [3829] Finding No. 8 and to follow page 71 before Page

71a which finding shall read identically with proposed Finding 34 heretofore set forth.

(3) By adding to the findings of fact on the Complaint in Intervention of the City of Fresno a new Finding No. 3 to be inserted on page 73 commencing on line 25 which finding shall read identically with proposed Finding 34 heretofore set forth.

(4) To amend the conclusion of law as to the original Case No. 685ND in the following paragraph unnumbered: that the plaintiffs are not entitled to any judgment against defendant Southern San Joaquin Municipal Utility District, E. L. Gleichner, E. B. Antonell, Robert H. Hiett, Jr., Milo Marshall, and E. J. Girard, Albert Davis, Frank Panero and D. L. Shifflep, or any or either of them and that said defendants and each and every of them are entitled to judgment that the contracts between the United States of America and said District, which are described in Finding 34, and each of them and each and every term and provision thereof are in all respects valid, legal, subsisting and binding upon, against and in favor of said District and the United States of America and against each and every of the plaintiffs herein and that said defendants and each of them are entitled to judgment for their costs herein incurred against each and all of the plaintiffs. [3830]

(5) By amending the conclusions of law in the Complaint in Intervention of Tranquillity Irrigation District by adding thereto the following paragraph: That the Tranquillity Irrigation District is

not entitled to any judgment against defendant Southern San Joaquin Municipal Utility District, E. L. Gleichner, E. B. Antonell, Robert H. Hiett, Jr., Milo Marshall, and E. J. Girard, Albert Davis, Frank Panero and D. L. Shifflep, or any or either of them and that said defendants and each and every of them are entitled to judgment that the contracts between the United States of America and said District, which are described in Finding 34, and each of them and each and every term and provision thereof are in all respects valid, legal, subsisting and binding upon, against and in favor of said District and the United States of America and against said Tranquillity Irrigation District and that said defendants and each of them are entitled to judgment and their costs herein incurred against said plaintiff.

(6) By amending the conclusions of law in the Complaint in Intervention of the City of Fresno by adding thereto the following paragraph: That the City of Fresno is not entitled to any judgment against defendant Southern San Joaquin Municipal Utility District, E. L. Gleichner, E. B. Antonell, Robert H. Hiett, Jr., Milo Marshall, and E. J. Girard, Albert Davis, Frank Panero and D. L. Shifflep, or any or either of [3831] them and that said defendants and each and every of them are entitled to judgment that the contracts between the United States of America and said District, which are described in Finding 34, and each of them and each and every term and provision thereof are in all respects valid, legal, subsisting and binding upon,

against and in favor of said District and the United States of America and against said City of Fresno and that said defendants and each of them are entitled to judgment and their costs herein incurred against said plaintiff.

(b) To amend and alter the amended judgment entered on June 20, 1957 as follows:

(1) By striking the following words which appear on page 53 at line 31, to wit "and/or defendant Districts" and inserting in lieu thereof (as provided at the end of Finding 25 page 60, lines 14 and 15) "provided, however, that defendant Districts, or any of them, may advance said costs."

(2) By adding to the last paragraph of paragraph 36 on page 56, line 6 following the words "State of California" a comma followed by the words: "Southern San Joaquin Municipal Utility District, E. L. Gleichner, E. B. Antonell, Robert H. Hiett, Jr., Milo Marshall, E. J. Girard, Albert Davis, Frank Panero and D. L. Shifflep" and by inserting a new paragraph to be numbered 36a to follow immediately after paragraph 36 of said judgment which new paragraph 36a shall read "That [3832] defendant Southern San Joaquin Municipal Utility District and E. L. Gleichner, E. B. Antonell, Robert H. Hiett, Jr., Milo Marshall, E. J. Girard, Albert Davis, Frank Panero and D. L. Shifflep, and each of them are each entitled to recover their costs of suit from all of the plaintiffs and the interveners Tranquillity Irrigation District and the City of Fresno jointly and severally.

(3) By adding and inserting a new paragraph to be numbered 36a, to read as follows: That the allegations contained in paragraph VII of the Complaint and each and every thereof with respect to the contracts entered into between the United States of America and Southern San Joaquin Municipal Utility District are untrue. That the contracts between the United States of America and said District which are hereinafter described, and each of them and each and every term and provision thereof are in all respects valid, legal, subsisting and binding upon, against and in favor of Southern San Joaquin Municipal Utility District and the United States of America and against each and every of the plaintiffs and plaintiffs in intervention herein. That the contracts herein referred to consist of the following: The contract dated October 8, 1945 identified under Symbol and No. 11r-1460, the amendment to said contract dated May 13, 1948 and the contract dated May 13, 1948 identified under Symbol and No. 175r-1434. [3833]

Said motions and each of them will be made upon the following grounds:

(1) Insufficiency of the evidence to justify the decision and amended judgment;

(2) Entire failure of the court to determine the issue as to the validity of the contracts for delivery and sale of water between the United States of America and this moving District;

(3) Newly discovered evidence, material for the parties making these motions, which they could not with reasonable diligence have discovered and pro-

duced at the trial, consisting of the final decisions of the California Supreme Court in the cases of Ivanhoe Irrigation District vs. All Parties, 47 A.C. 603, 630 and Santa Barbara County Water Agency vs. All Persons, 47 A.C. 701, 705, each dated January 24, 1957, in each of which it was decided that the United States of America had and has the status of a trustee for all water users and that the judgment against it in each of these cases was and is a judgment In Rem and binding on the World at large (which would include each and every of the plaintiffs and plaintiffs in intervention herein);

(4) That the final judgment of the Kern County Superior Court in action No. 52763 was within the judicial knowledge of this court, whether pleaded or not and was and is res judicata as against all of the plaintiffs and plaintiffs in intervention, the United States of America and this moving District and the former and present officers thereof.

Said motions and each of them will be based upon the records and files in these consolidated actions and the affidavit of Irl Davis Brett together with the true copy of the judgment [3834] in the Kern County Superior Court action No. 52763 which is annexed thereto and incorporated therein by reference.

Dated: July 1, 1957.

J. O. REAVIS,
IRL DAVIS BRETT,
By IRL DAVIS BRETT,
Attorneys for said moving District.

Points and Authorities

1. These motions are served and filed within time Rules 6(a), 59(b) and (e) and 60(b)(2) and (6) F.R.C.P.

2. These motions are authorized by Rules 59(a) and (e) and 60(b)(2) and (6) F.R.C.P.

3. Insufficiency of the evidence to justify the decision is a ground for new trial. Rule 17(3) Local District Court Rules.

4. Evidence not available at the trial, material for the party making the application, is ground for new trial and/or to amend and alter the amended judgment. Rule 59(a)(1) and (1) F.R.C.P.

5. Failure to rule and decide upon a material issue squarely presented by the pleadings is ground for new trial and/or to amend and alter the amended judgment. Rule 59(a)(1) and (e) F.R.C.P. 66 C.J. S. New Trial #65 P. 196 Bing Crosby, Etc. vs. Eaton (1956) 44 Cal. 2d 484, 490; 297 Pac. 2d 5.

6. Pleadings and evidence are to be construed and considered by the Court as if matters of judicial knowledge were pleaded and introduced in evidence and contradictory pleasings and or evidence must be disregarded. Greeson v. Imp. Irr. Dist. (CA 9—1932) 59 Fed. 2d 529, 530-532; Nev-Cal v. Imp. Irr. Dist. (CA 9—1936) 85 Fed 2d 886, 904; Rank v. Krug (1950) 90 F. Supp. 733, 781.

7. The final California judgments are res-judi-

cata and binding upon this Court and all parties affected by these motions. All Steel v. Taylor (1950) 88 F. Supp. 745, 748; Judith Basin Land Co. v. Fergus County (1931—CA 9) 50 Fed. 2d 792, 794.

8. A pendente lite change in decisional or statutory law must be followed. Vanderbark v. Owens Etc. Glass Co., 311 U. S. 538, 543; Ziffrin v. U.S. 318, U.S. 73, 78.

9. A judgment against a trustee is binding upon the beneficiaries of the trust under the rule of virtual representation. Watkins v. Bryant (1891) 91 Cal. 492, 504; Johnston v. Curley (1927) 83 C.A. 627, 631-633.

10. Since there can be no defense to the res judicata effect of the California judgments, the amended judgment should be amended to conform thereto forthwith. Rule 59(d) F.R.C.P.

11. Since there was and is no evidence that this moving defendant District, or its former or present officers, directors and agents have done, or threatened to do or will hereafter do or threaten to do the things described in lines 1 to 12 of paragraph 32 (page 48) of the amended judgment and they, and each of them, are entitled to judgment as proposed in their motions as against all plaintiffs and plaintiffs in intervention, no costs may be allowed and adjudged against these moving parties and they are entitled to costs as sought herein. Rule 54(d) F.R.C.P. [3836]

[Title of District Court and Cause.]

AFFIDAVIT OF IRL DAVIS BRETT

State of California,
County of Los Angeles—ss.

Irl Davis Brett being first duly sworn says:

That he is one of the attorneys for defendants and moving parties, Southern San Joaquin Municipal Utility District, E. L. Gleichner, E. B. Antonell, Robert H. Hiett, Jr., Milo Marshall, and E. J. Girard as members of its present Board of Directors, and Albert Davis, Frank Panero and D. L. Shifflep, as former directors thereof. That he makes this affidavit in support of their motion for a new trial and to alter and amend the amended judgment herein, pursuant to Rule 17(3) of the local rules of this Court for the reason that he is equally informed of the facts hereinafter stated to the same extent and manner as said moving parties or any of the agents or officers of said District and time will not permit the preparation, execution, service and filing of an identical affidavit by them because they reside in [3837] or near the City of Delano, County of Kern, State of California.

That on the 21st day of April, 1950 a final judgment was entered in and by the Superior Court of the State of California in and for the County of Kern being No. 4463 and entitled Southern San Joaquin Municipal Utility District etc., plaintiff vs. All Parties etc., defendants, that a true and

correct copy of said final judgment is annexed to this affidavit, marked Exhibit One and by such reference incorporated herein as if herein set out in full.

That on January 24, 1957 the Supreme Court of the State of California decided two cases in decisions which have now become final which are entitled and officially reported as follows: Ivanhoe Irrigation District vs. All Parties etc., 47 A.C. 603, and Santa Barbara etc. Agency vs. All Persons etc., which is reported in 47 A.C. 701. That in said decisions said Supreme Court for the first time and by decisional law established it as the law of the State of California that in proceedings of such character (of which the Kern County decision above referred to was one) the judgment was In Rem, foreclosed further inquiry into the matters determined therein and was binding on the World at large. Also, that in proceedings under the Central Valley Project and making contracts such as those made between the United States of America and this District, the United States was and is a trustee administering a trust in which all of the water users who were using or entitled to use the waters of the San Joaquin River and its tributaries were beneficiaries and that such beneficiaries were bound by the judgment against said trustee.

That such change in said decisional law of the State of California occurred pendente lite these consolidated causes in which this affidavit is made and filed and after the evidence herein was closed

and said consolidated causes were submitted to [3838] this Court for decision.

/s/ IRL DAVIS BRETT.

Subscribed and sworn to before me this 1st day of July, 1957.

[Seal] /s/ WALTER L. MANN,
Notary Public in and for said County and State. [3839]

Recorded: Book 81, Page 30, April 21, 10:37 A.M. 1950, R. J. Veon, Clerk, Kern County, Calif., by L. M. Recatune, Deputy.

Filed: April 21, 10:37 A.M. 1950, R. J. Veon, Clerk, Kern County, Calif., by J. A. Turner, Deputy.

In the Superior Court of the State of California
In and For the County of Kern

Entered 7; Fee ....

No. 52763

Southern San Joaquin Municipal Utility District, a Municipal Utility District, Plaintiff,

vs.

All Parties and Persons Having or Claiming to Have Any Interest in the Approval and Confirmation of the Proceedings For the Organization of the Southern San Joaquin Municipal

Utility District, and All Parties and Persons in Any Way Interested in That Certain Contract Dated October 18, 1945, Entitled, "Contract For the Furnishing of Water to Southern San Joaquin Municipal Utility District," and Bearing Symbol and Number 11r-1460; and/or That Certain Contract Dated May 13, 1948, Entitled, "Contract Amending Contract Symbol and Number 11r-1460 and Dated October 18, 19-5, Between the United States and the Southern San Joaquin Municipal Utility District, State of .ifornia, For Water Service," and/or That Certain Contract Dated May 13, 1948, Entitled, "Contract Between the United States and the Southern San Joaquin Municipal Utility District Providing For the Construction of a Distribution System," and Bearing Symbol and Number 175r-1434; Made by the United States of America and the Said Southern San Joaquin Municipal Utility District, and the Proceedings Leading Up to and Including the Execution and Delivery of Said Contracts; and All Persons or Parties Having or Claiming Any Right, Title or Interest in or Lien or Claim Upon or Against the Property Within Said District, or Any Part Thereof, and All Real Property Within Said District,

Defendants.

JUDGMENT [3840]

The above entitled cause came on regularly for trial before the above entitled Court on this 21st

day of April, 1950, and the plaintiff irrigation District being ready and represented by Edwin P. Jacobsen, Esq., its Attorney, it was first proven that Summons in this action has been duty and legally issued and served upon all parties and persons defendant herein, by the publication thereof, pursuant to and in compliance with the law and the order of this Court as heretofore made and entered herein, which publication was for the time and in the form and manner as is in all respects required by law, and the legal time for answer having since expired and no party or person having answered or otherwise appeared herein; the default of all parties and persons having or claiming to have any interest in the approval and confirmation of the proceedings for the application of the Southern San Joaquin Municipal Utility District, a municipal utility district, and/or persons and parties in any way interested in that certain contract dated October 18, 1945 entitled "Contract for the furnishing of water to the Southern San Joaquin Municipal Utility District," and bearing symbol and number 11r-1460 and/or that certain contract dated May 13, 1948, entitled "Contract Amending Contract" and bearing symbol number 11r-1460 and dated October 18, 1945, between the United States and the Southern San Joaquin Municipal Utility District, State of California, for water service and/or that certain contract dated May 13, 1948 entitled "Contract between the United States and the Southern San Joaquin Municipal Utility District providing for the construction of a distribution system," and bearing

symbol and number 17r-1434 made by the United States of America and the said Southern San Joaquin Municipal Utility District and the proceedings leading up to and including the execution and delivery of said contracts and all persons or parties having or claiming any right, title or interest in or lien or claim upon or against the property [3841] within said district, or any part thereof, and/or real property within said district, is entered according to law.

And no person appearing to contest, oppose or otherwise object to the same evidence, both oral and documentary was thereupon offered and received in support of the allegations of the Complaint and the Court, having read the Complaint and having heard, and considered the evidence and being fully advised, finds and determines therefrom that each and all of the allegations in the complaint are true and that the plaintiff is entitled to and of the right to have the judgment and decree of this Court as therein prayed for:

Now Therefore, by reason of the law and the premises aforesaid, it is now and hereby Ordered, Adjudged and Decreed:

First: That all parties and persons having or claiming to have any interest in the approval and confirmation of the proceedings for the organization of the Southern San Joaquin Municipal Utility District, and all parties and persons in any way interested or to be interested in the aforesaid contracts heretofore made and entered into by and between

the United States of America and the plaintiff herein, and the proceedings leading up to and including the execution and delivery, and each of said contracts and all parties and persons having or claiming any right, title, or interest in or lien or a claim upon the property within said Municipal Utility District or any part thereof, and all real property within said district, have each and all been duly served with publication and summoned to appear and answer the complaint of the plaintiff herein by the publication of Summons in compliance with the law and pursuant to the order of this Court, and that such publication was, for the time and in the form and manner as is in all respects required by law and that the legal time for answer having expired and no party or person having answered or otherwise appeared herein and the default of all parties and persons defendant, have been duly entered. [3842]

Second: That the plaintiff, Southern San Joaquin Municipal Utility District, a Municipal Utility District, is and ever since on or about May 16, 1935 has been a Municipal Utility District duly organized and existing as such a district under and by virtue of and in compliance with the laws of the State of California and particularly the act of the Legislature of California entitled, "Municipal Utility District Act," Statutes 1921, Page 245, and the acts amendatory thereof and supplementary thereto, and as such a district, from the time of its organization, has been and now is vested with all of the powers and authorities vested in Municipal Utility

Districts and its organization and existence as such a Municipal Utility District is hereby confirmed and approved.

Third: That the rights within the boundary of said Southern San Joaquin Municipal Utility District is situated wholly within Kern County, State of California and that the office of the Board of Directors of said District ever since its organization has been continuously and now is situated and maintained in the County of Kern, State of California and this action is lawfully prosecuted as an action In Rem and this Court has jurisdiction of the subject matter and of all the parties herein.

Fourth: That the contract made between the Southern San Joaquin Municipal Utility District and the United States of America, dated October 8, 1945 and identified under symbol and number 11r-1460 and entitled as hereinabove mentioned executed for and on behalf of plaintiff District by M. R. Marshall, the President and Edwin P. Jacobsen, the Secretary of the Board of Directors of said plaintiff District, and under the Seal thereof, and by Harold L. Ickes, Secretary of the Interior of the United States Department of the Interior for and in behalf of the United States of America and in words and phrases and figures the same as the copy thereof, attached to and incorporated in the Complaint of the plaintiff herein, which contract is the subject matter of this action, is in [3843] all respects the lawful, valid and legally pending act of the parties thereto.

Fifth: That the contract made between the South-

ern San Joaquin Municipal Utility District and the United States of America dated May 13, 1948, amending the aforesaid contract bearing symbol and number 11r-1460 executed for and on behalf of the plaintiff District by M. R. Marshall, the President and H. S. Riddell, the Secretary of said Board of Directors of said District, and under the seal thereof, and by Richard L. Boke, Regional Director, Region 2, of the Bureau of Reclamation of the United States Department of the Interior for and on behalf of the United States of America and in words, phrases and figures the same as the copy thereof, attached to and incorporated in the Complaint of the plaintiff herein, which contract is the subject matter of this action, is in all respects the lawful, valid and legally pending act of the parties thereto.

Sixth: That the contract made between the plaintiff district and the United States of America dated May 13, 1948 and bearing symbol and number 175r-1434 executed by M. R. Marshall, the President and Harry S. Riddell, the Secretary of the Board of Directors of said District for and on behalf of the said District, and under the seal thereof and by Richard L. Boke, the Regional Director for Region 2, of the Bureau of Reclamation of the United States Department of the Interior, for and on behalf of the United States of America, and in words, phrases and figures the same as the copy thereof attached to and incorporated in the Complaint of the Plaintiff herein, which contract is the subject matter of this action, is in all respects the lawful, valid and legally binding act of the parties thereto.

Seventh: That each and every act, step or proceeding necessary or required by law to be done or taken by the United States of America and by the Southern San Joaquin Municipal Utility District and its Board of Directors, and by the officers, agents [3844] or representatives of both the United States of America and the District, leading up to and including the execution and delivery of the aforementioned contracts and each of said contracts, have all been full done, performed and taken by the proper officers or representatives of the respective parties thereto, fully authorized by law, and within the time and in the form and manner such as to in all respects comply with the law and all of the conditions necessary or precedent to the full authority of all the respective persons who executed the same to so execute and deliver the contracts aforesaid, and each of said contracts have been made, done, performed and complied with, and at the time of the execution and delivery of said contracts and each of said contracts, the persons executing and who executed and delivered said contracts, and each of said contracts, were by law fully and completely authorized and empowered so to do.

Eighth: That said Contracts and each of them, and each and every term and provision thereof are in all respects valid and authorized by law and each and every term and provision thereof is in all respects valid, legal, subsisting and binding upon, against and in favor of the said Southern San Joaquin Municipal Utility District and the United States of America and each and every act of the

respective parties thereto leading up to and including the execution and delivery of said contracts, and each of them, is hereby confirmed and approved and adjudged to be valid.

Done in open Court this 21st day of April, 1950.

ROBERT B. SAWBERT,
Judge of the Superior
Court. [3845]

Affidavit of Service by Mail Attached.

[Endorsed]: Filed July 1, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that the Madera Irrigation District hereby appeals to the United States Court of Appeals for the Ninth Circuit from that certain Corrected and Amended Judgment which was docketed and entered herein on the 20th day of June, 1957, as against the Madera Irrigation District.

Dated this 1st day of July, 1957.

DAVID E. PECKINPAH,
DENVER C. PECKINPAH,
/s/ By HAROLD M. CHILD,
Attorneys for Madera Irrigation District.

Affidavit of Mailing Attached.

[Endorsed]: Filed July 3, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that the Chowchilla Water District hereby appeals to the United States Court of Appeals for the Ninth Circuit from that certain Corrected and Amended Judgment which was docketed and entered herein on the 20th day of June, 1957, as against the Chowchilla Water District.

Dated this 8th day of July, 1957.

GREEN, GREEN & BARTON,
/s/ By DENSLOW GREEN,
Attorneys for Chowchilla Water District.

Affidavit of Mailing Attached.

[Endorsed]: Filed July 10, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that the United States of America hereby appeals to the United States Court of Appeals for the Ninth Circuit from that certain Corrected and Amended Judgment which was entered herein on the 21st day of June, 1957, as against the United States of America.

Dated this 8th day of July 1957.

/s/ J. LEE RANKIN,
Solicitor General,
/s/ WILLIAM H. VEEDER,
Attorney, Department of
Justice,
Attorneys for Appellant.

[Endorsed]: Filed July 15, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that Lindsay-Strathmore Irrigation District, Lindmore Irrigation District, Ivanhoe Irrigation District, Saucelito Irrigation District, Orange Cove Irrigation District, Tulare Irrigation District, Lower Tule River Irrigation District, Stone Corral Irrigation District, Terra Bella Irrigation District, Porterville Irrigation District, Exeter Irrigation District and Delano-Earlimart Irrigation District hereby appeal to the United States Court of Appeals for the Ninth Circuit from that certain corrected and amended judgment which was docketed and entered herein on the 21st day of June, 1957.

Dated this 12th day of July, 1957.

MADDOX & ABERCROMBIE,
ERLING H. KLOSTER,
/s/ By JAMES K. ABERCROMBIE,
EDMUND G. BROWN,
Attorney General of the State of California,
B. ABBOTT GOLDBERG,
Deputy Attorney General,
/s/ By B. ABBOTT GOLDBERG,
Attorneys for Appellants, Lindsay-Strathmore Irrigation District, Lindmore Irrigation District, Ivanhoe Irrigation District, Saucelito Irrigation District, Orange Cove Irrigation District, Tulare Irrigation District, Lower Tule River Irrigation District, Stone Corral Irrigation District, Terra Bella Irrigation District, Porterville Irrigation District, Exeter Irrigation District and Delano-Earlimart Irrigation District.

[Endorsed]: Filed July 15, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that Clyde H. Spencer, Regional Director; Martin H. Blote, Regional Operations Superintendent; Edwin F. Sullivan, Fresno Supervisor; both in their capacities as individuals and in their official capacities, hereby appeal to the United States Court of Appeals for the

Ninth Circuit, from that certain Corrected and Amended Judgment which was entered herein on the 21st day of June, 1957, as against these defendants.

Dated this 8th day of July, 1957.

/s/ J. LEE RANKIN,
Solicitor General,
/s/ WILLIAM H. VEEDER,
Attorney, Department of Justice,
Attorneys for Appellants.

[Endorsed]: Filed July 15, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that the State of California, intervener in the above action, hereby appeals to the United States Court of Appeals for the Ninth Circuit from the Final Judgment entered in this action on June 21, 1957.

Dated: July 17, 1957.

EDMUND G. BROWN,
Attorney General of the State of California,
B. ABBOTT GOLDBERG,
J. ROBERT BURTON,
Deputies Attorney General,
/s/ By B. ABBOTT GOLDBERG.

[Endorsed]: Filed July 18, 1957.

[Title of District Court and Cause.]

CORRECTED NOTICE OF APPEAL

Notice is hereby given that the Chowchilla Water District hereby appeals to the United States Court of Appeals for the Ninth Circuit from that certain Corrected and Amended Judgment which was docketed and entered herein on the 21st day of June, 1957, as against the Chowchilla Water District.

Dated this 18th day of July, 1957.

GREEN, GREEN & BARTOW,
/s/ By DENSLOW GREEN,
Attorneys for Chowchilla Water District.

Affidavit of Mailing Attached.

[Endorsed]: Filed July 19, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that the Madera Irrigation District hereby appeals to the United States Court of Appeals for the Ninth Circuit from that certain Corrected and Amended Judgment which was docketed and entered herein on the 21st day of June, 1957, as against the Madera Irrigation District.

Dated this 17th day of July, 1957.

DAVID E. PECKINPAH,
DENVER C. PECKINPAH,
HAROLD M. CHILD,
/s/ By HAROLD M. CHILD,
Attorneys for Madera Irrigation District.

Affidavit of Mailing Attached.

[Endorsed]: Filed July 24, 1957.

[Title of District Court and Cause.]

ORDER DENYING MOTION OF SOUTHERN SAN JOAQUIN MUNICIPAL UTILITY DISTRICT TO AMEND AND ALTER JUDGMENT, OR IN THE ALTERNATIVE FOR A NEW TRIAL

One of the defendants, the Southern San Joaquin Municipal Utility District, severing itself from the other defendants, has moved to alter and amend the Amended and Corrected Judgment entered June 21, 1957, in two particulars:

1:—To change the language in Paragraph 32 relating to the cost of construction of the plan of physical solution from "all costs * * * shall be bourne by the defendant United States of America and/or the defendant Districts," to the language used in Paragraph 25 of the Amended and Corrected Findings of Fact and Conclusions of Law

relating to the costs of construction of the plan of physical solution which reads as follows: "all costs * * * shall be bourne by the defendant United States of America, provided, however, that the [3880] defendant Districts, or any of them, may advance said costs."

2:—To provide that the contract between the United States of America and the Southern San Joaquin Municipal Utility District for the furnishing of water is valid, and that the defendant District and its officers are entitled to recover costs, or, in the alternative, the defendant District and its officers move for an order granting a new trial upon the issue of the validity of that water contract.

I.

The alleged variance in Paragraph 32 of the Judgment from the language in Paragraph 35 of the Findings of Fact and Conclusions of Law concerning the payment of costs of construction of the plan of physical solution is not of such materiality as to require amendment of either the Findings or the Judgment.

II.

Assuming that the issue of the validity of the contract is properly framed by the pleadings (a question which I do not decide), it was thought to be patent from the Opinion filed in this case that it is not necessary at this stage of the case to reach that question or make a determination of that issue in this case.

It is perfectly feasible that the Judgment made in this case, for injunction and for a physical solution, be enforced and that the contract between the defendant District and the United States of America be carried out.

The contract between the defendant District and the United States does not limit the United States to supply the water under the contract from the San Joaquin river, and it does not require the defendant District to accept only water from that river. The contract calls for the delivery to the District of "project" water, and defines "project" to "mean [3881] the Central Valley Project, California, of the Bureau of Reclamation." The Central Valley Project "includes 38 major storage reservoirs with an aggregate capacity of 30,269,000 acre feet." [Exhibit 136, page 119.]

Since the commencement of the suit, the United States has completed as part of that "project" Pine Flat dam on the Kings river with a storage capacity of one million acre feet of water, which is accessible to the Friant-Kern canal. It has also completed Isabella reservoir on the Kern river, which is within the County and area of origin of the lands of the defendant District, and which reservoir has a capacity of more than 500,000 acre feet of water. The water to be supplied to the defendant District could be furnished by the United States from the reservoir back of either or both of said dams or from any of the other 38 major reservoirs in the "project," and still be within the terms of the contract.

The provision in the amended contract defining Class I water is merely a method of measuring the quantity of Class I water rather than limiting the United States to the San Joaquin river as the source of supply, or requiring the defendant District, on the other hand, to accept only water that is stored at Friant. If there were no other reasons (and there are) for such meaning the requirements of the Miller & Lux purchase and exchange contracts alone are sufficient to make that meaning clear. But even if that is not so, enforcement of the judgment as written in this case would still permit the water for defendant District's contract to be taken from the San Joaquin river, because of the small requirement of water to carry out the physical solution as ordered.

If the defendant District contends that its contract with the United States and the adjudication proceedings [3882] thereon in Kern County entitles the District to have the water called for in the contract come from the San Joaquin river, regardless of whether or not it is "surplus" water as that term is used and understood in the statutes and law of the State of California, then a serious question arises as to whether or not the Kern County court proceedings "in rem" and the statutes authorizing them are in conflict with the provisions of the California Constitution, Article 14, Section 3, affirming riparian and appropriative rights to all water which is reasonably and beneficially used under reasonable methods of diversion and use. The decision of that question is to be avoided by the Court,

if at all possible; and the Judgment in this case eliminates the necessity for the decision of that question. The Supreme Court in Arkansas Oil Co. v. Louisiana, (1938) 304 U.S. 197, 202, quoted the following with approval from Baker v. Grice, (1898) 169 U.S. 284: "It is a matter of common occurrence—indeed, it is almost the undeviating rule of the courts, both State and Federal—not to decide Constitutional questions (of the validity of a State Act) until the necessity for such decision arises in the record before the court."

A decision on the question of the validity of the contract would also require a decision on the question of conflict between the statutes of the State of California establishing the procedures for the Kern County proceedings and the statutes relating to the rights to water of the areas and Counties of origin, as well as the provisions of California law relating to the appropriation of only surplus waters and those California statutes confirming, (as the Constitution does), riparian and appropriative rights so long as they are put to reasonable and beneficial uses by reasonable methods of diversion and use.

These questions concerning the construction of State statutes should, if possible, likewise be avoided by Federal courts unless absolutely necessary to a decision, and be left to a prior determination by the State courts. Leiter Minerals v. U.S., (1957) 352 U.S. 220; Rescue Army v. Municipal Court, (1947) 331 U.S. 549; Stainbock v. Mo. Hock., (1949) 336 U.S. 368, 383-384; Alma Motor Co. v. Timken Co., (1946) 329 U.S. 129; Siler v. Louis-

ville & Nashville R. Co., 213 U.S. 175, 193; Albertson v. Millard, (1953) 345 U.S. 242; Light v. U.S., 220 U.S. 523, 538; Spector Motor Co. v. McLaughlin, 323 U.S. 101, 105. See Brandeis, J., concurring in Ashwander v. Tennessee Valley Authority, 297 U.S. 288, 347.

As pointed out, there is no necessity for determining any of those questions at this time.

One other matter should be mentioned: Following the Order of August 29, 1951, which was made with the consent of all parties [142 F. Supp. 6] directing the submission of plans of physical solution, extended hearing was had, participated in by all parties, after which the Court made the pre-trial order [142 F. Supp. 61 and 193] limiting the issues to be tried. The issue of the validity of the contract was not one of such issues, nor was the issue of the validity of the contract included as an issue to be determined, or suggested as such by any party, on the hearing of May 14, 1956, after notice to all parties for determination as to whether or not there should be an amended pre-trial order.

From the foregoing it is clear, and it is hereby ordered that the Motion of the defendant District to amend and alter the Judgment, or in the alternative to grant a new trial, should be, and the same is hereby denied. [3884]

Dated: Los Angeles, California, this 4th day of October, 1957.

/s/ PEIRSON M. HALL,
U. S. District Judge. [3885]

[Endorsed]: Filed and Entered October 4, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that Lindsay-Strathmore Irrigation District, Lindmore Irrigation District, Ivanhoe Irrigation District, Saucelito Irrigation District, Orange Cove Irrigation District, Tulare Irrigation District, Lower Tule River Irrigation District, Stone Corral Irrigation District, Terra Bella Irrigation District, Porterville Irrigation District, Exeter Irrigation District and Delano-Earlimart Irrigation District hereby appeal to the United States Court of Appeals for the Ninth Circuit [3897] from that certain corrected and amended judgment which was docketed and entered herein on the 21st day of June, 1957, and affirmed by order denying motion to amend and order said judgment and for a new trial, docketed and entered on the 4th day of October, 1957.

Dated this 25th day of October, 1957.

MADDOX & ABERCROMBIE,
ERLING H. KLOSTER,
/s/ By JAMES K. ABERCROMBIE,
Attorneys for Appellants, Lindsay-Strathmore Irrigation District, Lindmore Irrigation District, Ivanhoe Irrigation District, Saucelito Irrigation District, Orange Cove Irrigation District, Tulare Irrigation District, Lower Tule River Irrigation District, Stone Corral Irrigation District, Terra Bella Irrigation District, Porterville Irrigation District, Exeter Irrigation

District and Delano-Earlimart Irrigation District. [3898]

[Endorsed]: Filed October 28, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice Is Hereby Given that the State of California, intervener in the above-entitled action, hereby appeals to the United States Court of Appeals for the Ninth Circuit from the Final Judgment entered in this action on June 21, 1957, which was affirmed by the District Court in its order denying motion to amend and alter judgment entered on October 4, 1957. [3899]

* * * * *

Dated: November 1, 1957.

EDMUND G. BROWN,
Attorney General of the State
of California,
B. ABBOTT GOLDBERG,
J. ROBERT BURTON,
Deputy Attorneys General,
/s/ By B. ABBOTT GOLDBERG,
Attorneys for Appellant State
of California. [3900]

Affidavit of Service by Mail Attached.

[Endorsed]: Filed November 4, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice Is Hereby Given that Southern San Joaquin Municipal Utility District hereby appeals to the United States Court of Appeals for the Ninth Circuit from that certain corrected and amended judgment which was docketed and entered herein on the 21st day of June, 1957, as against this appealing defendant. This appeal is taken as a protective appeal in the event that it shall be determined that this appellant's Notice of Appeal dated July 19, 1957 was premature because said amended judgment was not final in that there was pending undetermined on July 19, 1957 those certain motions entitled "Motion for New Trial; To Alter or Amend Amended Judgment entered June 21, 1957; To Receive New Evidence to Effectuate Judicial Knowledge and to Relieve Moving Party from the Amended Judgment Upon the Ground of Newly Discovered Evidence which, by due diligence, could not have been discovered in time to move for a new trial under Rule 59(b)" and denied by an order of the District Court [3902] made and filed therein on October 4, 1957.

Dated: November 6, 1957.

J. O. REAVIS,
IRL DAVIS BRETT,
/s/ By IRL D. BRETT,
Attorneys for Appellant. [3903]

[Endorsed]: Filed November 7, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice Is Hereby Given that Chowchilla Water District and Madera Irrigation District hereby appeal to the United States Court of Appeals for the Ninth Circuit from that certain corrected and amended judgment which was docketed and entered herein on the 21st day of June, 1957, and affirmed by order denying motion to amend and alter said judgment and for a new trial, docketed and entered on the 4th day of October, 1957.

Dated this 12th day of November, 1957.

GREEN, GREEN & BARTOW,
/s/ By DENSLOW GREEN,
Attorneys for Chowchilla Water District,
DAVID E. PECKINPAH,
DENVER C. PECKINPAH,
HAROLD M. CHILD,
/s/ By HAROLD M. CHILD,
Attorneys for Madera Irrigation District. [3904]

Affidavit of Mailing Attached.

[Endorsed]: Filed November 13, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that the United States of America hereby appeals to the United States Court of Appeals for the Ninth Circuit from that certain Corrected and Amended Judgment which was entered herein on the 21st day of June, 1957, as against the United States of America.

Dated this 20th day of November, 1957.

/s/ J. LEE RANKIN,
Solicitor General,
/s/ WILLIAM H. VEEDER,
Attorney, Dept. of Justice,
Attorneys for Appellant.

[Endorsed]: Filed November 22, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

Notice is hereby given that Clyde H. Spencer, Regional Director; Martin H. Biote, Regional Operations Superintendent; Edwin F. Sullivan, Fresno Supervisor; both in their capacities as individuals and in their official capacities, hereby appeal to the United States Court of Appeals for the Ninth Circuit, from that certain Corrected and Amended Judgment which was entered herein on the 21st day of June, 1957, as against these defendants.

Dated this 20th day of November, 1957.

/s/ J. LEE RANKIN,
Solicitor General,
/s/ WILLIAM H. VEEDER,
Attorney, Dept. of Justice,
Attorneys for Appellant.

[Endorsed]: Filed November 22, 1957.

[Title of District Court and Cause.]

CERTIFICATE BY CLERK

I, John A. Childress, Clerk of the above-entitled Court hereby certify that the items listed below constitute the transcript of record on appeal to the United States Court of Appeals for the Ninth Circuit, in the above-entitled case:

A. The foregoing pages numbered 1 to 3,928, inclusive, containing the original:

(Copy) Complaint filed in Superior Court, State of California in and for the County of Fresno.

Filed 10/23/47: (Petition for Removal to the District Court of the United States, Southern District of California, Northern Division.) (Notice of Intention to file Petition for and Bond on Removal, etc.) (Bond on removal.) (Order of Removal.)

Defendant's Motion to Dismiss Complaint, filed 11/26/57.

Notice of Motion to Dismiss, filed 2/18/48.

Stipulation to continue date of hearing on motion for Dismissal and Order thereon, filed 2/23/48.

Supplemental Memorandum of Points and Authorities in support of Motion to Dismiss—Certain Defendants, filed 2/25/48.

Plaintiff's Answer to Defendants' Motion to Dismiss, filed 5/3/48.

Plaintiffs' reply Brief to Defendants' Supplemental Brief.

Government's Reply Memorandum on behalf of moving Defendants Martin Blote and R. K. Durant, etc.

Government's Closing Brief, filed 10/13/48.

Petition and Brief for the Fish and Game Commission of the State of California as Amici Curiae in behalf of Plaintiffs, filed 12/14/48.

Plaintiffs' Reply Brief to Defendants' Closing Brief, filed 12/16/48.

Government's Brief in reply to Brief of Fish and Game Commission of the State of California as Amici Curiae, filed 12/28/48.

Amendment to Complaint, filed 9/16/49.

Notice of modification of time for filing opening briefs, filed 9/27/49.

Order modifying and changing the date for filing of opening briefs, filed 9/29/49.

Amendment to Complaint, filed 9/30/49.

Government's Opening Brief, filed 10/12/49.

(Copy) Plaintiff's Opening Brief, filed 10/17/49.

Brief of Counsel for the California Fish and Game Commission as Amici Curiae in behalf of Plaintiffs, filed 12/12/49.

Plaintiffs' Reply Brief, filed 12/16/49.

Minute Order—2/2/50.

Notice of Motion to postpone hearing and consent that said Motion be heard at such time and place as the Court may order, filed 2/16/50.

Motion to postpone hearing date, filed 2/16/50.

Affidavit in support of motion, filed 2/16/50.

Affidavit of Richard S. Croker, filed 2/22/50.

Withdrawal of Motion to postpone hearing, filed 2/28/50.

Motion for Order Shortening Time and Affidavit of Claude L. Rowe in support thereof, filed 3/1/50.

Plaintiff's notice of motion to Amend Complaint, etc., filed 3/2/50.

Plaintiff's motion to Amend Complaint and to Substitute Party Defendant, filed 3/2/50.

Response to Plaintiffs' Motions for leave to file Amendments and to Substitute Party Defendant, filed 3/6/50.

Affidavit of John K. Bennett in opposition to motion for Preliminary Injunction, filed 3/8/50.

Affidavit of A. J. Jessen, filed 3/8/50.

Affidavit of Homer Williams, filed 3/8/50.

Affidavit of Lawrence Cobb, filed 3/8/50.

Amendment to Complaint, filed 3/20/50.

Motion to Dismiss Complaint, filed 3/30/50 (Sou. San Joaquin etc.)

Substitution of Attorneys (Madera Irrig. Dist.) filed 4/7/50.

Memorandum of Opinion, filed 4/13/50.

Minute Order—4/17/50.

Motion to Intervene as Plaintiff and Notice of Motion, filed 5/3/50.

Proposed complaint in intervention for injunction, lodged 5/3/50.

Motion for Preliminary Injunction and Notice of Motion, filed 5/3/50.

Response of defendants and memorandum of points and authorities in opposition to motions of the People of the State of California for leave to intervene, etc., filed 5/10/50.

Answer to Complaint in Intervention for Injunction (Chowchilla Water Dist., et al.) filed 5/15/50.

Appearance in opposition to motion to intervene as plaintiff and in complaint in interference, filed 5/12/50.

Counter-Affidavit of Thomas K. Vasey in opposition to motion of State of California for Preliminary Injunction, filed 5/12/50.

Counter-Affidavit of Eugene L. Christian in opposition to motion of State of California for Preliminary Injunction, filed 5/12/50.

Points and Authorities in opposition to the motion of the People of State of California for Preliminary Injunction, filed 5/13/50.

Appearance of Farmers Water Dist., filed 5/13/50.

General appearance of Stone Corral Irrigation District, filed 5/13/50.

Notice of appearance Sam Hamburg, filed 5/13/50.

Affidavit of Sam Hamburg in opposition to motion for preliminary injunction, filed 5/13/50.

Notice of appearance Panoche Water Distri. Assn., filed 5/13/50.

Affidavit of Gregory S. Lyon, behalf Panoche Water Distri. Assn. in opposition to motion for preliminary injunction, filed 5/13/50.

Affidavit of Harry Barnes behalf of Madera Irrig. District in opposition to request for Preliminary Injunction by State of California, filed 5/15/50.

Affidavit of Denslow B. Green, filed 5/15/50.

Points and authorities, filed 5/15/50.

Affidavit of J. Martin Winton, filed 5/15/50.

Amendment to Complaint in Intervention, filed 5/15/50.

Appearance of Lindsay-Strathmore Irrigation District, et al., filed 5/15/50.

Counter-Affidavit of Gordon H. Garland in opposition to motion in intervention for preliminary injunction, filed 5/16/50.

Counter-affidavit of Harold Shawl in opposition to motion in intervention for preliminary injunction, filed 5/16/50.

Affidavit of W. A. Alexander, etc., filed 5/16/50.

Affidavit of Howard Swall, filed 5/16/50.

Affidavit of LeRoy McCormick, filed 5/16/50.

Affidavit of George W. Trauger, in opposition to preliminary injunction, filed 5/16/50.

Affidavit Theodore L. Cairns in opposition to Preliminary Injunction, filed 5/16/50.

Affidavit Russell Davis in opposition to Preliminary Injunction, fld 5/16/50.

A Brief Summary and some calculations of and from the Affidavits of Lindsay-Strathmore, Lind-

more and Ivanhoe Irrigation Districts, filed 5/16/50.

Affidavit of Anton Simonich, filed 5/16/50.

Minute Order—5/24/50.

Notice of entry of Minute Order filed 5/25/50.

Order extending time to plead, filed 9/25/50.

Substitution of Attorneys, filed 11/10/50.

Order further extending time to plead, filed 12/18/50.

Order shortening time, filed 7/26/51.

Notice of Motion for Preliminary Injunction, filed 7/26/51.

Motion for Preliminary Injunction, filed 7/26/51.

Statement in support of Motion for Preliminary Injunction, filed 7/26/51.

Affidavit of Edward Payson Gregory, filed 7/26/51.

Affidavit of Everett G. Rank, filed 7/26/51.

Affidavit of R. C. (Red) Arnold, filed 7/26/51.

Affidavit of Jack B. McCoon, filed 7/26/51.

Notice of Motion to allow Amendment to Complaint, filed 7/26/51.

Amendment to Complaint, lodged 7/26/51.

Motion for adjournment and, in the alternative for a continuance of the hearing upon the application for preliminary injunction, filed 7/31/51.

Affidavit of Everett G. Rank, filed 8/3/51.

Affidavit of Edward Payson Gregory, filed 8/3/51.

Affidavit of Howard A. Stoddard, filed 8/3/51.

Affidavit of J. F. Sorensen, filed 8/3/51.

Affidavit of Irvin H. Althouse, filed 8/3/51.

Affidavit of W. A. Alexander, filed 8/3/51.

Counter-affidavit of Gordon H. Garland in opposition to motion for preliminary injunction, filed 8/3/51.

Temporary restraining order, entered 8/7/51.

Supplement to temporary restraining order of 8/4/51, filed 8/6/51.

Notice of motion to amend complaint in intervention, filed 8/11/51.

Motion to amend complaint in intervention, filed 8/11/51.

Amended complaint in intervention, filed 8/11/51.

Notice of Association of Attorneys, filed 8/20/51.

Appearance Praecipe of James O. Reavis, filed 8/21/51.

Notice of Association of Attorneys, filed 8/22/51.

Order modifying Temporary Restraining Order, etc., filed 8/29/51.

Contract for Temporary Water Service, filed 8/30/51.

Notice of Association of Attorneys, filed 10/8/51.

Substitution of Attorneys filed 10/10/51.

Notice of Association of Attorneys, filed 10/12/51.

Answer (Chowchilla Water Dist.) filed 10/11/51.

Answer (Southern San Joaquin, etc.), filed 10/13/51.

Answer (Madera Irrig. Dist.) filed 10/13/51.

Answer to Amended Complaints in intervention on (Madera Irrig. Dist.), filed 10/13/51.

Answer R. L. Boke, et al., filed 10/15/51.

Intervenor's Answer, filed 10/16/51.

Answer (Lindsay-Strathmore etc., et al.), filed 10/16/51.

Minute Order—10/18/51.

Motion People State of California, et al., for pretrial conference, and Order thereon, filed 11/26/51.

Minute Order—12/5/51.

Proposed Plan for Supplying Water, filed 12/17/51.

Notice of Repudiation, filed 12/21/51.

Order, filed 12/27/51.

Order shortening time, filed 1/3/52.

Affidavit in support of order shortening time, filed 1/3/52.

Notice of Motion for Permission to file Complaint in Intervention, filed 1/4/52.

Notice of Motion for Permission to file Complaint in Intervention, filed 1/8/52.

Order, filed 1/22/52.

Answer to Amended Complaint in intervention of State of California, filed 1/23/52.

Complaint in intervention, filed 1/4/52.

Plaintiff's Statement required by Order of Court, Dated 12/20/51, filed 1/29/52 (marked as Plf's exb. 1-52-2).

Statement of Legal Position of Madera Irrigation District, filed 1/29/52.

Statement of Position of Certain Defendant Irrigation Districts, filed 1/29/52.

Statement as upon pretrial of Richard L. Boke, et al., filed 1/29/52.

Opening statement of legal position of Southern San Joaquin, etc., filed 1/29/52.

Opening statement Chowchilla Water Dist., filed 1/29/52.

Statement in the nature of opening statement of Intervenor's legal position, filed 1/29/52.

Minute Order—1/29/52.

Notice of appearance, filed 2/5/52 (Chowchilla Water Dist.).

Appearances and Request for Service, filed 2/5/52.

Notice of appearance, filed 2/5/52 (Madera Irrig. Dist.).

Appearance and request for Service, filed 2/6/52.

Notice of appearance (Sou. San Joaquin, etc.) filed 2/6/52.

Order of Payment to Court's Agent, filed 2/6/52.

(Copy) Minutes of meeting Board Directors, Southern San Joaquin, etc., filed 2/12/52.

Letter, dated 3/28/52 from J. O. Reavis addressed to the Court.

Order admitting certain persons as named party plaintiffs, filed 6/20/52.

Contract for Temporary Water Service, filed 7/16/52.

Petition, filed 7/31/52.

Notice, filed 8/13/52.

Petition, filed 8/15/52.

Order providing for Temporary Water Service, Channel alterations and appointment of Agent, filed 8/25/52.

Notice, filed 8/28/52.

Contract for temporary water service, filed 9/10/52.

Affidavit of Claude L. Rowe, filed 9/16/52.

Association of Attorneys, filed 9/16/52.

Memorandum in support of Petition for Substitution of Attorneys, filed 9/22/52.

(Copy) Contract for temporary water service, filed 9/23/52.

Affidavit of Claude L. Rowe, filed 9/23/52.

Amendment of affidavit of Claude L. Rowe, filed 9/25/52.

Counter-affidavit of Harold A. Parichan, filed 9/25/52.

Counter-affidavit of Emil F. Schramm, filed 9/25/52.

Points and authorities re substitution of Attorneys in Traction Ranch Matter, filed 10/1/52.

Affidavit of Lawrence D. Cobb, filed 10/2/52.

Order, filed 10/3/52.

Affidavit of Claude L. Rowe, filed 10/14/52.

Notice of Dismissal, filed 12/18/52.

Notice, filed 12/18/52.

Amendments of and Supplements to the Plan for Physical Solution of Problem of Water Supply, etc.

Substitution of Attorneys, filed 4/7/53 (Tulare Irrig. Dist.).

Substitution of Attorneys, filed 4/7/53 (Lower Tule River Irrig.).

Order modifying Order of 8/22/52, filed 4/24/53.

Notice of motion for permission to file Complaint in Intervention, filed 4/24/53 (City of Fresno).

Notice of motion for permission to file Complaint in Intervention, filed 4/24/53 (Tranquillity Irrig. Dist.).

Contract for temporary water service, filed 4/30/53.

Order allowing filing of complaint in intervention by City of Fresno, filed 5/8/53.

Order allowing filing of complaint in intervention by Tranquillity Irrig. Dist., filed 5/8/53.

(Copy) Contract for temporary water service, filed 5/14/53.

Contract for temporary water service, filed 5/26/53.

Notice of motion to join United States as party defendant, filed 6/11/53.

Amendment to Complaint as Amended, filed 6/12/53.

Notice of motion to join United States as a party defendant, filed 6/30/53.

Points and authorities in support of motion to bring United States as a Defendant, filed 6/30/53.

Memorandum of authorities in opposition to notice of motion to join United States as party defendant, filed 6/30/53.

Memorandum of points and authorities in opposition to Plaintiff's notice of motion to join United States as party defendant, filed 7/1/53.

Memorandum of authorities in support of motion to join United States as party defendant, filed 7/2/53.

Motion to dismiss complaint in intervention of City of Fresno etc., filed 7/13/53.

Motion to dismiss complaint in intervention of Tranquillity Irrig. Dist., etc., filed 7/13/53.

Notice of hearing of motion to dismiss the complaint in intervention, etc., filed 7/16/53.

Notice of hearing of motion to dismiss complaint in intervention of Tranquillity Irrig. Dist., etc., filed 7/16/53.

Order to Show Cause, filed 7/21/53.

Notice of motion to Substitute Party Defendant and to Amend Complaint, filed 7/21/53.

Motion to substitute party defendant and to amend complaint, filed 7/21/53.

Affidavit of Benjamin H. Mead, Jr., in support of motion to substitute party defendant, filed 7/21/53.

Points and authorities against motion to dismiss complaint in intervention of Tranquillity Irrig. Dist., etc., filed 8/4/53.

Affidavit in support of motion for Substitution, filed 8/6/53.

(Copy) Opinion of Court of Appeals, Ninth Circuit, filed 8/10/53.

(Copy) Contract for temporary water service, filed 8/11/53.

Order withdrawing Order of April 24, 1953, filed 8/12/53.

Additional points and authorities against motion to Dismiss complaints in intervention of City of Fresno and Tranquillity Irrig. Dist., filed 8/17/55.

Affidavit of John W. Carrell in support of motion to substitute Clyde Spencer for Richard Boke, filed 8/17/53.

Objections to motion to substitute party defend-

ant, and to amend complaint, and return to order to show cause, filed 8/17/52.

Counter-affidavit of Clyde H. Spencer in opposition to motion for substitution and in response to order to show cause, filed 8/17/52.

Order denying motion to dismiss complaint in intervention of City of Fresno, etc., filed 8/27/53.

Order denying motion to dismiss complaint in intervention of Tranquillity Irrig. Dist., etc., filed 8/27/53.

Order granting motion to substitute party, filed 8/27/53.

Amendment to Complaint, filed 8/27/53.

Answer of State of California to complaint in intervention of City of Fresno, filed 9/5/53.

Answer of State of California to complaint in intervention of Tranquillity Irrig. Dist., filed 9/8/53.

Answer of Lindsay-Strathmore etc., et al., to complaint in intervention of City of Fresno, filed 9/10/53.

Answer of Lindsay-Strathmore etc., et al., to complaint in intervention of Tranquillity Irrig. Dist., filed 9/10/53.

Answer of Madera Irrig. Dist. to complaint in intervention of City of Fresno, filed 9/15/53.

Answer of Madera Irrig. Dist., to complaint in intervention of Tranquillity Irrig. Dist., filed 9/15/53.

Answer of Southern San Joaquin, etc., to complaint in intervention of City of Fresno, filed 9/16/53.

Answer of Southern San Joaquin, etc., to com-

plaint in intervention of Tranquillity Irrig. Dist., filed 9/16/53.

Order, filed 9/16/53.

Answer of Chowchilla Water Dist., to complaint in intervention of City of Fresno, filed 9/21/53.

Answer of Chowchilla Water Dist. to complaint in intervention of Tranquillity Irrig. Dist., filed 9/21/53.

Affidavit of James Snedeker, filed 10/10/53.

Notice of motion to reopen trial, filed 10/12/53.

Affidavit of Lawrence Gobb in support of notice of motion to reopen trial, filed 10/12/53.

Motion to substitute party defendant and to amend Complaint in Intervention, filed 10/12/53.

Amendment to Complaint in intervention (City of Fresno) lodged 10/12/53.

Notice of motion to substitute party defendant and to amend complaint in intervention, filed 10/12/53.

Amendment to Complaint in intervention (Tranquillity Irrig. Dist.) lodged 10/12/53.

Notice of motion to substitute party defendant and to amend complaint in intervention, filed 10/12/53.

Motion to substitute party defendant and to amend complaint in intervention, filed 10/12/53.

Affidavit of Melvin Hughes in support of motion to substitute party defendant and to amend complaint in intervention, filed 10/12/53.

Memorandum of points and authorities in support of motion to substitute party defendant and to amend complaint in intervention, filed 10/12/53.

Order granting motion to substitute party, filed 12/3/53.

Opposition of State of California to Plaintiff's motion to Reopen trial, filed 10/15/53.

Opposition of State of California to motions of City of Fresno and Tranquillity Irrigation District to join Clyde E. Spencer, filed 10/15/53.

Opposition of Lindsay-Strathmore Irrigation District, et al., to plaintiff's motion to reopen trial, filed 10/16/53.

Opposition of Madera Irrigation District to motions of City of Fresno and Tranquillity Irrigation District to join Clyde E. Spencer, filed 10/28/53.

Opposition of Madera Irrigation District to plaintiff's motion to reopen trial, filed 10/28/53.

Order for issuance and service of summons on complaint in intervention of People of the State of California, filed 10/29/53.

Order extending time, filed 11/6/53.

Opposition of Southern San Joaquin, etc., to plaintiff's motion to reopen trial, filed 11/14/53.

Opposition of Southern San Joaquin, etc., to motions of City of Fresno and Tranquillity Irrigation District to join Clyde E. Spencer, filed 11/14/53.

Notice of Motion to substitute party defendant and to amend complaint, filed 11/16/53.

Motion to substitute party defendant and to amend complaint, filed 11/16/53.

Amendment to Complaint, filed 11/15/53.

Notice of Motion to substitute party defendant and to amend complaint in intervention, filed 11/16/53.

Motion to substitute party defendant and to amend complaint in intervention, filed 11/16/53.

Amendment to complaint in intervention of City of Fresno, filed 11/16/53.

Amendment to complaint in intervention of Tranquillity Irrigation District, filed 11/16/53.

Notice of Motion to substitute party defendant and to amend complaint in intervention, filed 11/16/53.

Motion to substitute party defendant and to amend complaint in intervention, filed 11/16/53.

Opposition of Madera Irrigation District to motions to join Edwin F. Sullivan as party defendant in lieu of Jack Rodner, filed 11/18/53.

Order for special service of process, filed 11/19/53.

Opposition of Lindsay-Strathmore Irrig. Dist., et al., to motions of plaintiff and City of Fresno and Tranquillity Irrigation District to join Edwin F. Sullivan and to amend their respective complaints and complaints in intervention, filed 11/26/53.

Opposition of Chowchilla Water District to motions of plaintiffs and City of Fresno and Tranquillity Irrig. Dist. to join Edwin F. Sullivan and to amend their respective complaints and complaints in intervention, filed 11/21/53.

Order granting motion to substitute party, filed 12/3/53.

Order granting motion to substitute party defendant and defendant in intervention, filed 12/3/53.

Stipulation re service of complaint in interven-

tion, filed 12/8/53 between People State of California and Lindsay-Strathmore Irrig. Dist., et al.

Stipulation re service of complaint between People of State of California and Chowchilla Water Dist., filed 12/8/53.

Order re correctiors in Reporter's Transcript, filed 12/11/53.

Motion to Dismiss and memorandum in support of motion to Dismiss, filed 12/14/53.

Answer of City of Fresno to Amended Complaint in intervention of the State of California, filed 12/16/53.

Answer of Tranquillity Irrigation District to Amended Complaint in intervention of the State of California, filed 12/18/53.

Amended Answer of City of Fresno to Amended Complaint in intervention of State of California, filed 12/18/53.

Affidavit of Claude L. Rowe for order extending time in which to answer amended complaint in intervention of State of California, filed 12/21/53.

Order extending time in which to file answer to amended complaint in intervention of State of California, filed 12/21/53.

Notice of hearing on Motion to Dismiss, filed 12/30/53.

Stipulation re service of complaint in intervention between People of State of California and Southern San Joaquin, etc., filed 12/30/53.

Answer to Amended Complaint in intervention of the People of the State of California, filed 12/31/53.

Answer of Chowchilla Water Dist. to amended Complaint in intervention of State of California, filed 1/4/54.

Answer of Southern San Joaquin, etc., to amended complaint in intervention of State of California, filed 1/5/54.

Opposition to motion of United States to dismiss and points and authorities in support thereof, filed 1/8/54.

Minute Order of 1/27/54.

Order denying motion of United States to Dismiss, filed 2/1/54.

Suggestion respecting maintenance of status quo pending action by U. S. Court of Appeals for the Ninth Circuit, filed 2/23/54.

Suggestion respecting the need for further pleadings by the Plaintiffs in subject case, filed 6/11/54.

Certified copy of Order directing filing of Opinion, and entry of order denying petitions for Writs of Prohibition, Mandamus or Certiorari, Circuit Court of Appeals, filed 7/12/54.

Notice of motion to add parties, to drop party and to file a supplemental complaint and an amendment and supplement to complaint, as amended, filed 8/10/54.

Motion to add parties, to drop party, and to file a supplemental complaint and an amendment and supplement to complaint, as amended, filed 8/10/54.

Notice of Motion by City of Fresno to add parties in intervention and to file a supplemental complaint in intervention and an amendment and sup-

plement to complaint in intervention, as amended, filed 8/10/54.

Notice of Motion by Tranquillity Irrigation District to Add parties in intervention and to file a supplemental complaint in intervention and an amendment and supplement to complaint in intervention, as amended, filed 8/10/54.

Supplemental Complaint in intervention of Tranquillity Irrigation District, filed 8/10/54.

Motion to add parties in intervention and to file an amendment and supplement to complaint in intervention of Tranquillity Irrigation District, as amended, and supplemental complaint in intervention, filed 8/10/54.

Amendment and Supplement to complaint in intervention of Tranquillity Irrigation District, filed 8/10/54.

Supplemental Complaint in intervention of City of Fresno, filed 8/10/54.

Amendment and Supplement to Complaint in intervention of City of Fresno, filed 8/10/54.

Motion to add parties in intervention and to file an amendment to file an amendment and supplement to complaint in intervention of the City of Fresno, as amended and supplemental complaint in intervention, filed 8/10/54.

Supplemental Complaint, filed 8/10/54.

Amendment and Supplement to Complaint, filed 8/10/54.

Opposition of State of California to motions of City of Fresno and Tranquillity Irrigation District

and Individual Plaintiffs to add parties, to file a supplemental complaint, etc., filed 8/11/54.

Opposition of motions of City of Fresno, Tranquillity Irrigation District and Individual Plaintiffs to add parties, to file supplemental complaint, and to file an amendment and supplement to complaint filed 8/12/54.

Opposition of Madera Irrigation District to motion to add parties, file supplemental complaint and amendment and supplement to complaint, etc., filed 8/12/54.

Opposition of Defendant Chowchilla Water District to motions of City of Fresno, et al., to add parties, to file supplemental complaint, etc., filed 8/14/54.

Contract for temporary water service, filed 8/16/54.

Opposition of Southern San Joaquin, etc., to motion to add parties, file supplemental complaint and amendment and supplement to complaint, etc., filed 8/16/54.

Suggestion in regard to motions to add and drop parties, etc., filed 8/16/54.

Contract between U. S. and Pacific Gas & Electric Co. for water service, filed 8/20/54.

Motion for leave to dismiss action against the United States of America, filed 8/23/54.

Order, filed 8/24/54.

Memorandum of Order, filed 8/27/54.

Suggestion and objection together with memorandum of points and authorities in support, filed 9/10/54.

Order adding defendants in intervention, etc., of City of Fresno, filed 9/17/54.

Order dropping plaintiffs, adding party defendants, allowing filing of supplemental complaint, etc., filed 9/17/54.

Order adding defendants in intervention, allowing filing of supplemental complaint in intervention and allowing filing of amendment and supplement to complaint in intervention as amended of Tranquillity Irrigation District, filed 9/17/54.

Suggestion relative to the amicable settlement between the United States and the claimants to rights to the use of water in the San Joaquin River, filed 9/17/54.

Opposition to Motion of State of California to dismiss the action of State of California against United States of America, filed 10/4/54.

Suggestion that case be concluded, filed 10/14/54.

Answer of defendants Joseph A. Secara, et al., to amendment and supplement to complaint in intervention of City of Fresno, filed 10/15/54.

Answer of defendants Joseph A. Secara, et al., to supplemental complaint in intervention of City of Fresno, filed 10/15/54.

Answer of defendants Joseph A. Secara, et al., to amendment and supplement to complaint in intervention of Tranquillity Irrigation District, filed 10/15/54.

Answer of defendants, Joseph A. Secara, et al., to supplemental complaint in intervention of Tranquillity Irrigation District, filed 10/15/54.

Answer of defendants, Joseph A. Secara, et al.,

to plaintiff's supplemental complaint, filed 10/15/54.

Answer of defendants, Joseph A. Secara, et al., to amendment and supplement to complaint; filed 10/15/54.

Brief Amicus Curiae opposing motion of the State of California for leave to dismiss against the United States of America, filed 10/15/54.

Answer of State of California to supplemental complaints and to amendments and supplements to the complaints as amended of plaintiff and complaints in intervention; filed 10/21/54.

Order granting motion to re-open, filed 10/25/54.

Order granting motion to re-open, filed 10/28/54.

Answer to amendment and supplement to complaint in intervention of City of Fresno, filed 10/28/54.

Answer to amendment and supplement to complaint in intervention of Tranquillity Irrigation District, filed 10/25/54.

Answer to amendment and supplement to complaint, filed 10/25/54.

Order, filed 10/25/54.

Answer of Chowchilla Water District to supplemental complaints and to amendments and supplements to the complaints as amended of plaintiffs and complainants in intervention, filed 10/27/54.

Answer of Pacific Gas and Electric Company to the Complaint as Amended filed 10/28/54.

Answer of Pacific Gas & Electric Co. to the Supplemental Complaint, filed 10/28/54.

Answer of Pacific Gas & Electric Co. to com-

plaint in intervention as amended of City of Fresno, filed 10/28/54.

Answer of Pacific Gas & Electric Co. to supplemental complaint in intervention of City of Fresno, filed 10/28/54.

Answer of Pacific Gas & Electric Co. to complaint in intervention as amended of Tranquillity Irrigation District, filed 10/28/54.

Answer of Pacific Gas & Electric Co. to supplemental complaint in intervention of Tranquillity Irrigation District, filed 10/28/54.

(Copy) Order filed 10/28/54.

Disclaimer, filed 10/29/54.

Answer of defendants Milo R. Marshall, et al., to supplemental complaints and to the amendments and supplements to the complaints as amended of the plaintiffs and the complainants in intervention, filed 10/30/54.

Notice of motion to reopen trial, consolidate evidence under complaint and complaints in intervention, etc., filed 11/3/54.

Order filed 11/18/54.

Plaintiffs and complainants in intervention request for admissions by the U.S.A., filed 11/22/54.

Order shortening time for making requests for admissions by defendant and defendant in intervention United States, filed 11/22/54.

Order shortening time for notice of motion for separate trial of issues and claims under plaintiffs' supplemental complaint, etc., filed 11/22/54.

Order shortening time for notice of motion for

separate trial of issues and claims under plaintiffs' supplemental complaint, etc., filed 11/22/54.

Order shortening time for notice of motion for separate trial of issues and claims under plaintiffs' supplemental complaint, etc., filed 11/24/54.

Notice of motion for separate trial of claims, etc., filed 11/24/54.

Motion for order directing separate trial of issues and claims, filed 11/24/54.

Affidavit in support of motion for separate trial, 11/24/54.

Order shortening time and appointing officer for taking of deposition, filed 11/22/54.

Notice of taking deposition upon oral examination, filed 11/24/54.

Order shortening time and appointing officer for taking of deposition, filed 11/24/54.

Order setting, and notice of pre-trial, filed 11/23/54.

Certificate of mailing, filed 11/24/54.

Plaintiffs and complainants in intervention request for admissions by defendant Pacific Gas & Electric Co., filed 11/29/54.

Affidavit of J. Lee Rankin, filed 12/3/54.

Answer to complaint in intervention and supplemental complaint in intervention, filed 12/6/54.

Answer to Supplemental Complaint, filed 12/6/54.

Suggestion in connection with response to request for admissions, filed 12/6/54.

Suggestion of Attorney General of the United States, filed 12/6/54.

Application for default judgment against defend-

ants and defendants in intervention Clyde Spencer, et al., filed 12/7/54.

Affidavit of Claude L. Rowe, in support of application for default judgment, filed 12/7/54.

Application for default judgment, etc., filed 12/7/54.

Notice of application for judgment against defendant United States of America, etc., filed 12/7/54.

Affidavit of Claude L. Rowe in support of application for default judgment, etc., filed 12/7/54.

Notice of application for default judgment against defendants and defendants in intervention Clyde Spencer, et al., filed 12/7/54.

Answer of Pacific Gas & Electric Co. to request of plaintiffs and complainants in intervention for admissions, filed 12/7/54.

Objections of Pacific Gas & Electric Co. to the request of plaintiffs and complainants in intervention for admissions.

Notice of hearing objections of Pacific Gas & Electric Co. to request for admissions, etc., filed 12/7/54.

Notice of motion to strike objections of defendant and defendant in intervention United States of America, to plaintiffs and complainants in intervention request for admissions, etc., filed 12/10/54.

Motion to strike objections of defendant and defendant in intervention the United States of America to plaintiffs and complainants in intervention City of Fresno and Tranquillity Irrig. District re-

quest for admissions by said defendant and defendant in intervention the United States, filed 12/10/54.

Order shortening time, filed 12/10/54.

Affidavit for order shortening time, filed 12/10/54.

Notice of taking deposition upon oral examination, filed 12/13/54.

Suggestion in regard to Motion to Default the United States of America, lodged 12/13/54.

Suggestion in regard to motion to default the defendants Spencer, Blote and Sullivan, filed 12/13/54.

Suggestion relative to Motion to Strike objections to response to request for admissions, lodged 12/13/54.

Order fixing time and appointing officer for taking of depositions, filed 12/14/54.

Affidavit of Claude L. Rowe in support of noticing of taking deposition, etc., filed 12/13/54.

Motion to strike and in the event the same is granted, Motion and Application for Default Judgment, filed 12/14/54.

Notice of Motion to strike, and in the event the same is granted, motion and application for Default Judgment, filed 12/14/54.

Order shortening time, filed 12/14/54.

Amendment to Answer (Chowchilla Water Dist.) filed 12/31/54.

Notice of Relief and Withdrawal of Counsel, filed 1/24/55.

Order requiring simultaneous Briefs, filed 1/24/55.

Notice of Motion and Motion filed 1/31/55.

Opposition to motion for extension of time, filed 2/7/55.

Order amending order requiring simultaneous Briefs, filed 2/7/55.

Brief of Edson Abel, as Amicus Curiae in behalf of California Farm Bureau Federation, filed 2/17/55.

Opening Brief of Chowchilla Water District, filed 3/9/55.

Brief (reply) of Southern San Joaquin Municipal Utility District, filed 4/12/55.

Petition for Writ of Prohibition or in the alternative for a Writ of Injunction, filed 4/18/55.

Affidavit of Claude L. Rowe, filed 4/18/55.

Order to show cause why writ should not issue and temporary restraining Order, filed 4/19/55.

Answer to and Motion to Dismiss petition for Writ of Prohibition or in the alternative a Writ of Injunction, and motion to Dissolve Temporary Restraining Order, filed 4/27/55.

Memorandum of Points and Authorities in support of Answer to and Motion to Dismiss Petition for Writ of Prohibition or in the alternative a Writ of Injunction; and motion to Dissolve Temporary Restraining Order, filed 4/27/55.

Order continuing Restraining Order in Force, filed 4/28/55.

Memorandum Opinion on Application for Preliminary Injunction, filed 5/9/55.

Findings of Fact, Conclusions of Law and Preliminary Injunction, filed 5/24/55.

Notice of Appeal filed in Ancillary Proceedings, filed 6/13/55.

Statement of points on which Appellants intend to rely on appeal, filed 6/13/55.

Designation of Contents of Record, filed 6/13/55.

Affidavit of Claude L. Rowe for extension of time to Designate additional portions of Record, etc., on appeal, filed 6/21/55.

Order extending time for designation of contents for record on appeal, filed 6/21/55.

Designation of City of Fresno and Tranquillity Irrigation District of additional portions of the Record, etc., filed 8/31/55.

Amended designation by City of Fresno, et al., of additional portions of Record, etc., on appeal, filed 12/22/55.

Second amended designation by City of Fresno, et al., of additional portions of Record, etc., on appeal, filed 12/29/55.

Opinion, filed 2/7/56.

Motion for express direction for the entry of a separate judgment, filed 2/29/56.

Notice of motion for express direction for the entry of separate judgment, filed 2/29/56.

Points and authorities in support of motion for immediate entry of separate judgment, filed 2/29/56.

Opposition to motion for express direction for the entry of separate judgment, filed 3/30/56.

Order, filed 4/18/56.

Chowchilla Water District written statement pursuant to Order, dated 4/17/56, filed 4/24/56.

Notice of substitution of attorneys, filed 5/1/56.

Madera Irrigation District written statement pursuant to Order dated 4/17/56, filed 5/4/56.

Statement pursuant to order dated 4/17/56, filed 5/7/56.

Response State of California to order filed 4/18/56, etc., filed 5/7/56.

Written statement Southern San Joaquin Municipal Utility District, filed 5/8/56.

Written statement Pacific Gas & Electric Co, pursuant to Order dated 4/17/56, filed 5/9/56.

Written statement Plaintiffs and Plaintiffs in intervention, pursuant to Order of the Court dated 4/17/56, filed 5/14/56.

Supplemental memorandum after hearing 5/22/56, filed 7/11/56.

Minute Order, 10/17/56.

Objection to form of proposed Judgment, filed 11/13/56.

Objection to form of Proposed Findings of Fact, Conclusions of Law and Judgment, filed 11/16/56.

Statement by J. Lee Rankin, Solicitor General, filed.

Objection to form of proposed judgment, filed 11/20/56.

Substitution of attorneys filed 11/20/56.

Findings of Fact, Conclusions of Law, filed 1/18/57.

Judgment, entered 1/22/57.

Notice of motion to amend findings and add to findings and to amend judgment, filed 1/28/57.

Affidavit of Claude L. Rowe, filed 1/28/57.

Motion to amend Findings, Add to Findings and Amend Judgment, filed 1/28/57.

Suggestion to the Court respecting Findings of Fact, Conclusions of Law and Judgment, filed 1/29/57.

Notice of Motion to Amend Findings and Add to Findings and to Amend Judgment, filed 2/6/57.

Notice of Motion for entry of Order or Judgment vacating Preliminary Injunction or for correction of Judgment, filed 2/19/57.

Motion for entry of Order or Judgment vacating Preliminary Injunction or for correction of Judgment, filed 2/19/57.

Statement of reasons in support of motion for entry of order or judgment vacating Preliminary Injunction or for correction of judgment and points and authorities in support thereof, filed 2/19/57.

Opposition to motion for entry of order or judgment vacating preliminary injunction or for correction of judgment, filed 2/21/57.

Minute Order 2/26/57.

Motion for extension of time filed 4/24/57.

Order filed 5/24/57.

Amended and Corrected Findings of Fact and Conclusions of Law, filed 5/24/57.

Corrected and Amended Judgment, entered 6/21/57.

Notice of motion for New Trial; to alter or amend amended judgment entered 6/20/57, etc., filed 7/1/57.

Opposition to motion for new trial and to alter

and amend judgment of Southern San Joaquin Municipal Utility District, filed 7/9/57.

Minute Order 7/22/57.

Photostatic copy of Judgment of Superior Court of State of California, Kern County, case No. 52763.

Answer to motion for new trial and motion to amend and alter judgment of South San Joaquin Utility District, filed 8/5/57.

Reply to plaintiffs' answer to motion for new trial and motion to amend and alter judgment which motions were made by Southern San Joaquin Municipal Utility District, filed 8/14/57.

Order denying motion of Southern San Joaquin Municipal Utility District to amend and alter judgment, or in the alternative for a new trial, filed 10/4/57.

Affidavit in Opposition to Motion for New Trial, filed 10/9/57.

Notice of Appeal Lindsay-Strathmore Irrigation District, et al., filed 10/28/57.

Notice of Appeal and Designation of Contents of Record on Appeal, filed 11/4/57 (State of California).

Notice of Appeal Southern San Joaquin Municipal Utility District, filed 11/7/57.

Notice of Appeal Chowchilla Water District, filed 11/13/57.

Notice of Appeal United States of America, filed 11/22/57.

Notice of Appeal Clyde H. Spencer, etc., et al., filed 11/22/57.

Designation of Record on Appeal, Clyde H. Spencer, et al., filed 6/10/57.

Designation of U.S.A., of portions of the Reporter's Transcript of Record and Proceedings, filed 6/10/57.

Statement by U.S.A. and Defendants Clyde H. Spencer, et al., of points upon which they intend to rely on appeal, filed 6/10/57.

Designation of Record on Appeal Lindsay-Strathmore Irrigation District, et al., filed 11/7/57.

Designation of Contents of Record on Appeal Southern San Joaquin Municipal Utility District, filed 11/7/57.

Designation of Record on Appeal Chowchilla Water District and Madera Irrigation District, filed 11/20/57.

B. Plaintiff's Exhibits 1 to 455, inclusive, 601 to 610, inclusive.

Defendant's (Krug et al.) Exhibits A to Z-1, inclusive; AA to ZZ-1, inclusive, and A-1-A to A-88-A, inclusive.

Defendant (State of California) Exhibits A to A-33-A, inclusive.

Defendant Irrigation District Exhibits A to Z, inclusive, and AA to YY, inclusive.

C. Two hundred and sixty volumes of Reporter's Transcript of Proceedings had on:

4/29/48 — 7/29/48 — 2/22/50 — 3/8, 9, 10/50 — 5/15, 16, 17, 18/50 — 7/31/51 — 8/1, 2, 3, 21, 22, 23, 24, 28, 29, 30/51 — 12/20/51 — 1/15, 16, 17/52 — 1/29, 30, 31/52 — 2/5, 6, 7, 8, 12, 13, 14, 15, 19, 20, 21/52 — 3/4, 6, 7, 11/52 — 3/12, 13, 14/52 —

4/1, 2 , 3, 4, 8, 9, 10, 11, 22, 23, 24, 25, 28, 29/52 — 5/6, 7/52 — 5/8, 9, 13, 14, 15, 16, 21, 22, 23, 27, 28, 29, 30/52 — 6/4, 5, 6, 10, 11, 17, 18, 19, 20/52 — 7/8, 10, 14, 15, 16, 17, 18, 22, 23, 24, 25, 29, 30, 31/52 — 8/12, 13, 14, 15, 19/52 — 8/20, 21, 22, 26, 27, 28, 29/52 — 9/2, 3, 4, 5, 10, 16, 17, 18, 19, 23, 30/52 — 10/1, 2, 3, 14, 15, 16, 17, 21, 22, 23, 28, 29, 30, 31/52 — 11/4, 5, 6, 7, 12, 13/52 — 11/14, 18, 19, 20, 21/52 — 12/2, 3, 4, 5, 9, 10, 11, 15, 16, 17/52 — 1/20, 21, 22/53 — 1/23, 28, 29, 30/53 — 2/3, 4, 5, 6, 10, 11, 12, 13, 16, 17/53 — 3/10, 11/53 — 3/12, 13, 17, 18, 19, 20, 24, 25, 26, 27/53 — 4/7, 8, 9, 10, 14, 15, 16, 17, 21, 22, 23, 24/53 — 4/28, 29, 30/53 — 5/1, 5, 6, 7, 8, 12, 13, 14, 15, 26, 27, 28, 29/53 — 6/2, 3, 4, 5/53 — 6/8, 10, 11, 12, 30/53 — 7/1, 2, 3, 13, 27/53 — 8/3, 17/53 — 10/19/53 — 11/23/53 — 1/11/54 — 2/15/54 — 3/8/54 — 4/19/54 — 5/17/54 — 7/12/54 — 8/16/54 — 9/20/54 — 10/4, 25/54 — 11/15/54 — 6/17/53 — 12/3, 7, 14/54 — 12/15, 16, 17, 18, 21, 30, 31/54 — 3/12/56 — 5/14, 22, 23/56 — 2/11, 26/57.

I further certify that my fee for preparing the foregoing record, amounting to $15.60, has been paid by appellants.

Dated: January 3, 1958.

[Seal] JOHN A. CHILDRESS,
Clerk.

/s/ By WM. A. WHITE,
Deputy Clerk.

In the United States District Court, Southern District of California, Northern Division

No. 685-ND

EVERETT J. RANK, et al., Plaintiffs,

vs.

JULIUS A. KRUG, etc., et al., Defendants.

THE PEOPLE OF THE STATE OF CALIFORNIA, Complainants in Intervention,

vs.

JULIUS A. KRUG, etc., et al., Defendants in Intervention.

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Los Angeles, California
May 16, 1950

Honorable Peirson M. Hall, Judge Presiding.

* * * * *

Mr. Abercrombie: If the court please, that still doesn't answer the parens patriae question. The people interested in the State as trustee in its sovereign capacity of all wild game, as they used to be of the tidelands for the [223] people in general, for the public, not just the people of the state of California but the public. You can come in from some other state and catch a salmon. So we don't

know whether we are talking about 150 million people or how many. But it doesn't matter how many they are, they are the people entitled to represent them in the State of California. And the State has consented. Now the people who object to what the State proposes are the users who are taking water outside of the river. Everyone who lets water run down the river naturally is supplying water for fish. So I don't see that there really is any object to the reference.

Mr. Rowe: One final word, and that is, counsel are assuming that they have water rights. I contend that they haven't. That is one of the issues in the Rank case, and they may juggle that around or anything else they want to, but I take the position that these defendants have not yet established their water rights.

Mr. Harris: Your Honor please, Mr. Rowe has been claiming that he or his clients are water users along the San Joaquin River between Friant Dam and Mendota Pool. I would like to tell Mr. Rowe and the court that I happen to represent some 10 or 12 of those water users and that I got them to sign the contract with the Bureau of Reclamation which gave to those people—and that is stretching it—what I considered to be the most perfect water right in the State of California. [224] That contract provided that the Bureau of Reclamation would release enough water from Friant Dam so that there would be a surface flow of 5 second-feet of water at least at their lower boundary of their properties, 30 miles down the last user down there

would have a surface flow of 5 second-feet of water minimum by his property. To have a surface flow in the San Joaquin of that amount you have to keep the ground water recharged, otherwise you wouldn't have a surface flow.

Those property owners were only limited as to the lands they owned. They under that contract were entitled to pump all the water without limitation for use upon that land 12 months out of the year, year after year from now on indefinitely into the future. What they were being compensated for was if they had a pump in the river and they had to maybe put a pump into the ground because maybe the river channel wouldn't be where that pump was, the Bureau would give them a pump.

The other compensation was the difference in the elevation of the ground water table, that it would be somewhat lower because there would not be the flow in the river, and they were compensated for that difference in the water table elevation.

So I say on his class, that I do represent and did represent a number of those people.

Mr. Rowe: May I say just one more word?

I might, just as a challenge to my learned associate; [225] I would like him sometime to show this court where they get any water out of Friant Dam. They get a lot of highly charged alkaline drainage water, and he had better read his contract. That is all I can say. [226]

* * * * *

In the United States District Court, Southern District of California, Central Division

No. 680-ND

HOLLISTER LAND AND CATTLE COMPANY, a corporation, et al., Plaintiffs,

vs.

JULIUS A. KRUG, etc., et al., Defendants.

No. 685-ND

EVERETT G. RANK, et al., Plaintiffs,

vs.

JULIUS A. KRUG, etc., et al., Defendants.

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Fresno, California
August 1, 1951

Honorable Peirson M. Hall, Judge Presiding.

* * * * *

Mr. Abercrombie: No, your Honor, Madera appeared separately.

We do not want to be taken, your Honor, and we never have said and we do not now say, that any riparian owner having a right on this river between Friant Dam and Gravelly Ford should be

denied his water. We have never taken that position. We do not take it now.

We think that all of those riparian owners should have water available in the river for them to use, to the extent reasonably necessary to irrigate their riparian lands, using all reasonable means to divert that water, which, as I understand, is their water right.

We agree with your Honor's position and opinion that Congress did not intend to cut off the water from these riparians in the project. We believe that what I have stated is substantially the definition of what a riparian right is in California since 1928. [168]

* * * * *

The Court: And that the Bureau intends to give all of the water to the owners between Friant and Mendota Pool that they have heretofore had, say, for reasonable use for their crops under existing water rights?

Mr. Boyd: The reach of the river, your Honor, is from Friant to Gravelly Ford. I understand that there are no, or at least substantially no, appropriative rights within that reach; that the rights, if any, are riparian and riparian only.

I understand it to be the policy of the Bureau to release from Friant Dam all of the water that the owners of those lands can put to beneficial use

for agricultural and domestic and stock-raising purposes on those lands. [203]

* * * * *

Mr. Shaw: We will, given time, apply to the court for leave to amend that petition in intervention and to show the interest of the State as parens patriae, as the planner and official beginner of the Central Valley Project, to show the interest of the State of California through its Water Project Authority, which is an agency of the State set up to administer for the State the Central Valley Project. [342]

And to urge upon the court the supremacy of the State water laws, including those provisions of the Constitution and of law which relate to the wasteful use of water, wasteful diversion of water.

The Court: Let me ask this question. Does the State recognize that water rights exist between Friant and Mendota?

Mr. Shaw: Yes, indeed. And I would like to make a statement at this moment as to what is contemplated by the State plan; that the law of the State of California is determinative of those rights. That is exactly our belief, and it is our belief that we must support the integrity of the State water laws regardless of what the federal agencies plan or do. [343]

* * * * *

RICHARD L. BOKE

called as a witness herein on behalf of the plaintiff, under the provisions of Section 43(b), having been first duly sworn, was examined and testified as follows:

The Clerk: May I get your name, please?

The Witness: Richard L. Boke. [598]

Examination

Q. (By Mr. Rowe): Mr. Boke, what is your official position with the United States Bureau of Reclamation?

A. Regional Director, Bureau of Reclamation, for Region 2, Sacramento.

Q. And what does Region 2 consist of?

A. The Klamath River Basin in Oregon, and all of California north of Tehachapi. [599]

* * * * *

GEORGE E. P. SMITH

called as a witness by and on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

The Clerk: Your full name, please?

The Witness: George E. P. Smith.

Direct Examination

Q. (By Mr. Rowe): Professor, would you just give a brief outline of your experience in engineering, where you graduated from college and what you have been doing since then? [869]

(Testimony of George E. P. Smith.)

A. I graduated in 1897 at the University of Vermont, remained three years as instructor, and during that time studied and obtained a C. E. degree—that is an advanced degree—and spent summers with various engineering works always for many years. The one in 1905 was particularly of interest because I surveyed and reported on a rather large irrigation project.

Beginning in 1900 I have been associated with the University of Arizona. The first five years as Professor of Engineering and after that as double capacity, as Professor of Irrigation Engineering and Engineer of the Agricultural Experiment Station engaged in about 50 per cent research work and another 50 per cent contacting and helping farmers and in the educational courses.

Q. During your 50 years at the University of Arizona, have you made studies of the operation of the various dams on rivers in Arizona?

A. I would say that since 1905 my interests have been in irrigation in all its phases and particularly my field has been ground water hydrology, and I have done a tremendous amount of field work, leg work and classifying, analyzing data, preparing and publishing bulletins and articles in technical journals, and my list of publications in the permanent literature is over 120.

Q. And they have to do with stream studies and underground waters and geology of rivers?

A. Yes, sir. [870]

Q. The University Agricultural Experiment Sta-

(Testimony of George E. P. Smith.)

tion is a joint venture of the United States Government and the University of Arizona, is it not?

A. Well, they provide some of the money. We consider that they give the money to the State, then the State adds its own contributions, which are larger, and hires the personnel and manages everything. Of course, all buildings must be provided by the State.

Q. To lead the witness in order to hurry him, Mr. McPherson——

Mr. McPherson: As to his qualifications, I have no objection to his being led.

Q. (By Mr. Rowe): You have made studies, have you not, Professor, on the Rio Grande, Colorado, Salt River, Gila River, Santa Cruz River, Pecos River in Arizona, Texas, New Mexico, have you not?

A. Well, I would exclude the Pecos and the Rio Grande. I would say yes to the others.

Q. Have you done work for land owners on the Rio Grande as regards the underground water supply and the stream flow supply?

A. Along the Rio Grande, no. After developing [871] the history of our Arizona valleys years ago, I did not dare to publish it for fear the geologists would hang bells in my ears, but I finally did, and also besides that publication there was a publication for the AAAS, the American Association of Advancement of Science meeting in Albuquerque, so I made the application to the Rio Grande Valley in

(Testimony of George E. P. Smith.)

that publication. That is my only study on the Rio Grande.

Q. Did you do any work on the Delta of the Rio Grande?

A. That was a private consultation job back in 1927 which I had nearly forgotten. The project seemed to be going under.

Q. Did you do any work for the City and County of Honolulu when they had an underground water shortage on the Islands where the city is located?

A. In 1941, when the demand for water was increasing tremendously by the increase of shipping and the increase of armed services, I made two reports for the City and County of Honolulu Water Department.

Q. And at that time there was a shortage on the Islands, was there not? A. Yes.

Q. The farmers were competing against the City of Honolulu for the underground water?

A. Yes, and many private outfits, like the Dole [872] people—the farmers were further back but the big power company and the pineapple companies, with their wells closer to the shoreline and so much deeper wells, they were the ones who were introducing salt water which might ruin the entire water supply of the City of Honolulu.

Q. And at the present time the water supply of the City and County of Honolulu is adequate, is it not? A. I think it is fairly so.

Q. And the population has increased probably three times, has it not?

(Testimony of George E. P. Smith.)

A. Well, I can't say.

Q. Professor, what societies are you a member of?

A. Do you mean scientific societies?

Q. Scientific societies.

A. And technical societies?

Q. Yes.

A. Well, the American Society of Civil Engineers, a life member; American Society of Agricultural Engineers, American Association of Engineers, American Association for the Advancement of Science, Phi Beta Kappa, Phi Kappa Phi, Sigma Psi, which is a scientific society.

Q. Did you write the water code of the State of Arizona which was adopted by the legislature?

A. I did, and lobbied it through single-handed, the last evening of the last day of the session, the third session in which I tried. [873]

Q. And that included the laws of taking of ground water throughout the entire State of Arizona, did it not?

A. No. It excluded ground water.

The Court: When was this water code adopted?

The Witness: In 1919.

Except ground waters flowing in definite underground channels. They were included.

Q. (By Mr. Rowe): And did you do work on the Santa Margarita Valley with Mr. Lee that is involved in this present dispute——

The Court: In California you mean?

Mr. Rowe: In California——

(Testimony of George E. P. Smith.)

Q. ——involved in this argument with the Department of Justice?

A. He called me over there in January 1916 for a limited amount of consultation work; yes.

Q. And in Arizona each year do you make studies of the total stream flow, rainfall, snowfall, storage behind dams, and underground storage of waters in Arizona?

A. That is a service to the state which we initiated at the end of a long dry period of drought in 1939.

For instance, the project which needs this service the most is the San Carlos Irrigation District of 100,000 acres. They have a splendid reservoir but never had it more than [874] two-thirds full. And in the last 15 years they have been very, very short of water and every year I study their prospects so carefully that I can tell them that each farmer should plant 23 per cent of his acreage, as occurred one year, or perhaps 52 per cent or 70 per cent, and of course I am always very happy if I can say that 100 per cent can be planted. But at first they didn't give much attention to that but they do now.

The Court: It is a continuing service, is it?

The Witness: Every year. At the end of March, the beginning of the planting season and the end of our winter precipitation season.

Q. (By Mr. Rowe): In other words, for irrigation districts you make recommendations to the farmers after studying the available underground

(Testimony of George E. P. Smith.)

supply and available stream flow and available storage in reservoirs, telling or recommending to the farmers the exact percentage of their acreage that they should plant? A. Yes, sir. [875]

* * * * *

Q. (By Mr. Rowe): You have studied the effect of storage dams, like the Roosevelt Dam and Coolidge Dam, on the stream flow below those dams, have you not,—— A. Oh, yes.

Q. ——during your residence in Arizona?

A. Yes.

Q. And the effect of storing water behind those dams, on the supply of underground water adjacent to the Gila and Salt Rivers? [877]

The Court: Below the dam?

Q. (By Mr. Rowe): Below the dam.

A. Yes, sir. [878]

* * * * *

The Court: Go ahead.

Have you studied Boulder Dam?

The Witness: Yes.

Answering your question, Boulder Reservoir has a storage capacity of about 31 million acre-feet, and the average annual run-off, which we used to consider was 18 million, after we have lowered our sights, on account of 20 years of low run-off, we say it is 15 million, just about half of the storage capacity.

Q. (By Mr. Rowe): In other words, the Boulder Dam stores double the average annual run-off of the river? [879]

(Testimony of George E. P. Smith.)

A. Yes. It would be two years' supply.

Q. Would you state the facts as regards the Roosevelt Dam? I believe that is on the Salt River, is it not?

Mr. McPherson: Objected to, if the court please.

The Court: Overruled.

The Witness: I would say the Salt River system has a total storage capacity of a little over 2 million acre-feet, to equalize and control the run-off averaging 1,200,000 acre-feet. Until a few years ago, we said a 1,400,000 acre-feet.

Q. (By Mr. Rowe): Now, the Salt River is the river that runs through the valley where Phoenix is? A. Yes.

Q. On the Gila—I believe you spell it G-i-l-a?

A. The Gila River.

Q. What is the storage capacity on that river, and how much run-off?

Mr. McPherson: I make the same objection.

The Court: That is the Coolidge Reservoir?

The Witness: Yes, sir. 1,200,000 acre-feet.

The Court: For the storage?

The Witness: For the storage capacity, and the project was promised that the average run-off would be 320,000 acre-feet at the time the dam was built in 1928, but it has proved [880] to be found less than that. I don't know just what the average would be, maybe 200,000.

Q. (By Mr. Rowe): And the total storage?

A. 1,200,000.

Q. Pretty near six to one?

(Testimony of George E. P. Smith.)

A. I may say, going back to Salt River, that we need more storage and are going to have it.

Q. Now, you began a study of Friant Dam and the lands between Friant Dam and Mendota Pool a year ago, did you not? A. Yes, sir, in July.

Q. And since that time, have you been making continuous studies of the area spaces of the operation of Friant Dam, rainfall in this area, geological formation?

A. Yes, hydrologic and geologic.

Q. Mr. Boke stated on the stand that the San Joaquin River had an annual run-off of approximately 1,800,000 acre-feet annually. What is the effective storage of Friant Dam?

A. This volume, the 1948 Sacramento report of the Sacramento-San Joaquin Water Supervision, uses the figure 1,900,000 for the average annual run-off, and I think it is considered to be 1,800,000 or 1,900,000, depending on whether a 50-year average or 40-year average is taken.

What is the rest of your question, sir? [881]

The Court: The question is, what is the storage?

Q. (By Mr. Rowe): The effective storage of Friant Dam? A. That is what I gave.

The Court: 1,800,000?

The Witness: No, that is the average run-off; and the effective storage is from—the amount above the sill of the Friant-Kern Canal is about 400,000 vacant feet, which is about 22 per cent of the average annual run-off, and it seems so amazing to me

(Testimony of George E. P. Smith.)

that I can't think of Lake Millerton except as being a great big puddle.

The Court: That is 400,000 acre-feet storage above the outlet for the Friant-Kern Canal?

The Witness: Yes.

The Court: Well, what is the total storage, or what is the storage between the outlet for the Madera Canal and the Friant-Kern Canal?

The Witness: I believe it is about 80,000 vacant feet more, if I remember rightly.

The Court: Then what is the storage below the outlet for the Madera?

The Witness: Well, that is considered to be dead storage; and now if another 100,000 acre——

The Court: Well, what is it? The outlet for the river channel is below the Madera outlet? [882]

The Witness: Oh, the four gates, outlet gates below—I won't say how much storage is below that.

The Court: Madera?

The Witness: Below the Madera?

The Court: Below the Madera outlet and above the river outlet.

The Witness: Well, below the Madera outlet, it would be, let's see—I forget. It is dead storage.

Q. (By Mr. Rowe): Would you get that figure for the court tomorrow, of the dead storage?

A. Yes. And besides the dead storage, the live storage will be reduced gradually by the inflow of gravel there; and now if we take another 100,000 acre-feet off the top, for flood control, the storage facilities of this great project, reaching from Sac-

(Testimony of George E. P. Smith.)

ramento to Bakersfield,—the heart of which is this reservoir—the storage becomes pitifully small, and I think it is so unworthy of the Bureau or any governmental institution, when larger storage facilities could be built in place of this dam, which is misplaced at Friant. [883]

* * * * *

Q. What in your opinion is the minimum storage, according to sound engineering principles, that a dam on a river should have, as compared to the annual run-off of the river on which the dam is located?

Mr. Abercrombie: If the court please, that is too general. [884] It all depends whether you have flash floods, whether it is the general flow, or what use you are going to put it to.

The Court: If he can state it generally, he may.

Mr. McPherson: May it be considered that my objection goes to the whole of the testimony of this witness in which he comments on the soundness of the engineering designs and gives the comparison which he is requested to give?

The Court: It may be so understood.

The Witness: The relation between the average run-off and the storage capacity should be, naturally, dependent upon the distribution of the rainfall and the distribution of the demand, and the purposes,—whether it should be for power or for irrigation; but my experience has been that in California and in Arizona, and in the Southwest generally, the more you can get, the better.

(Testimony of George E. P. Smith.)

So I would say there is no top limit.

Q. (By Mr. Rowe): What is the minimum, in your opinion?

A. Well, I don't think you can accomplish very much or have any very satisfactory operation with such a small reservoir as Lake Millerton.

The Court: What in your opinion should the reservoir be, in relation to the run-off at Friant? What should its capacity be, for the reasonable and best use of the water? [885]

The Witness: At least equal to that of Pine Flat Reservoir, which will hold, when it is built, a little bit more than the average annual run-off.

The Court: In other words, your opinion is that the reasonable and best use of the water would require a reservoir at Friant with a capacity equal to the average annual run-off of 1,800,000 acre-feet?

Mr. McPherson: I am objecting to your Honor's question, and I dislike to do so. I did not so understand the witness.

The Court: I am asking now if that is his opinion.

The Witness: It is, your Honor, and the reason is this: All that Lake Millerton can do is hold over a little winter water for summer purposes,—an outgrown conception of storage. The modern conception of storage is to hold the waters of the years of great rainfall for use in the years of lean rainfall. For instance, in one year shown in the record, the run-off of San Joaquin at Friant was only a little

(Testimony of George E. P. Smith.)

over 400,000 acre-feet of water. I guess that would be class 1 super-duper water.

On another year, the run-off was 3,593,000 acre-feet, almost 3,600,000 acre-feet of water. What can you do with a reservoir with an active storage of 400,000 in a case like that? [886]

Now, in Salt River Valley, there have been two occasions since Roosevelt Dam was built when we used water that had been stored six years. In fact, we just couldn't operate without that big storage.

Q. (By Mr. Rowe): In other words, you feel, summing it up, that Friant Dam is built in accordance with outmoded engineering practice?

A. Well, my information is that——

The Court: He answered that. [887]

* * * * *

Q. (By Mr. Rowe): Professor, you have made a study of the effect of Friant Dam upon the bottom of the river below Friant Dam, since this operation, have you not? A. Yes, sir.

Q. What has been the result of the operation of Friant Dam on the bottom of the river? [889]

* * * * *

The Witness: My opinion is that in that part of the river, from a point somewhere below the New Lane's Bridge, to a point—two wells below the New Lane's Bridge, and one between the new and the old bridge, and one above the old Lane's Bridge, and they were very consistent in showing that in the last few years the riverbed has—the river, you

(Testimony of George E. P. Smith.)

might say the riverbed, and the river itself, has sunk into the ground 2 feet deeper.

At Mr. Rank's place, the results were startling. The records began in the year 1936, and for a couple—let's see, for a couple of years, the depth to the water in his well was 7 feet, and that measures exactly the level in the river right opposite to his well. The floods of 1938 brought down so much sand, gravel, boulders and detritus, that it built the riverbed up a foot; and the flood of 1941 built the well up another foot, so his water is 5 feet.

Since that time the water in his well and the riverbed opposite has dropped 8 feet, and of course the river ford he formerly used is out. [892]

Mr. McPherson: Did you say "8 feet"?

The Court: Eight feet, dropped eight feet. [893]

* * * * *

Q. (By Mr. Rowe): Professor, in your opinion is the San Joaquin River bottom between the bluffs below Friant as far as the bluffs extend an underground river or stream? A. Yes, sir.

Q. Has it a well-defined bottom and well-defined banks? A. Yes, sir.

Q. And do those correspond roughly to the river bluffs? A. Yes, sir. [897]

* * * * *

The Court: Well, is there a bed of water underlying this formation that you call the Fresno series?

The Witness: No, sir.

Mr. Rowe: Friant series.

The Court: Friant series, I mean.

(Testimony of George E. P. Smith.)

The Witness: No, there is no——

The Court: No fresh water?

The Witness: Oh, when I said "No," I assumed you meant available in quantity, useful quantity, and I said "No."

The ground below the water table, to all depths, is filled with pores, and whatever pores there are are filled with water. Even clay beneath the water table has a very high percentage of water, but it is not available; you can't get the use of it, can't get it out. [934]

* * * * *

Q. (By Mr. Rowe): Now, Professor, as a result of your study—you heard Mr. Boke's flow schedule, proposed flow schedule? A. Yes.

Q. What would that proposed flow schedule do to the wells not pumping out of the river, but pumping out of the river bottom lands?

The Court: Between escarpments?

Mr. Rowe: Between escarpments.

The Witness: I say that the flow schedule, even when translated into second-feet, is very misleading, for the month of August, because the schedule for August, made by the Bureau, involved a lot of water that they had to carry to Miller & Lux land, and that accounts for the fact that the flow schedule in August is 800 second-feet, and for September only 190 second-feet. [935]

Their flow schedule for the first six months we haven't been able to get. I don't think it has been divulged. The flow schedule for that year——

(Testimony of George E. P. Smith.)

The Court: For the first six months of next year?

The Witness: That has not been divulged by the Bureau.

The Court: Well, is it available?

The Witness: If you have a flow schedule, your Honor, for the whole year, that flow schedule for the first six months is the actual water that is run in the river this year, but it is not a schedule for next year; and of course it involves a large flow for Miller & Lux throughout the six months and part of August.

The flow schedule would mean, as I interpret it, a maximum of 200 second-feet discharge, barring the occurrence of high floods, which require release of water from the reservoir.

Oh, I have forgotten your question now.

Q. (By Mr. Rowe): What would the flow schedule, such as Mr. Boke proposed, or a similar flow schedule not exceeding 200 second-feet, what would that do to the wells in the river bottom?

The Court: Just a minute. The flow schedule shows for September 190, October 137, November 61, and December, 40?

The Witness: Yes, sir.

The Court: And he indicated there was no flow schedule [936] for the first six months of the next calendar year, beginning January 1st.

Mr. Rowe: Have you the flow schedule for January 1st to September 1st, 1952, yet?

(Testimony of George E. P. Smith.)

Mr. Boke: No. We will not make that schedule up until we have the water supply available.

The Court: That is to say, it will be made up——

Mr. Boke: Later in the year, yes.

The Court: Now, your question is, what would this proposed schedule——

Mr. Rowe: Yes, if continued.

The Court: For September, October, November, and December, what would it do to the wells in the river bottom between the escarpments?

Mr. Rowe: Yes.

Mr. Boyd: Between what boundaries east and west?

Mr. Rowe: Between Friant and Mendota Pool.

The Witness: It will practically cut off all new water supplies to the wells. The water level will go down, depending on how rapidly, how much the pumps are used. In fact, I have felt that the proposal of the Bureau to substitute a well for a river bank pump was a phony.

The Court: Was what?

The Witness: A phony, a gold brick. It is like cutting off a dog's tail an inch at a time so as not to hurt him. [937]

I would rather be the fellow with the river bank supply cut off all at once, than to have it—than to substitute a well, and then gradually find that I have less and less water and have to quit anyway.

Q. (By Mr. Rowe): Well, a schedule not exceeding 200 second-feet,——

A. If we accept the Bureau's estimate of seep-

(Testimony of George E. P. Smith.)

age—and I guess it is approximately correct—for a 1500 second-foot flow in the river, 122 second-feet will be absorbed into the river bed between Friant and Gravelly Ford; with a thousand second-foot flow in the river, 76 second-feet will be absorbed between Friant and Gravelly Ford; with 500 second-feet flowing in the river, 30 second-feet will be absorbed into the river bed; with 200—that is as far as the table goes, but with 200 second-feet flowing in the river, on that basis we would get about 12 second-feet absorbed into the river bed. [938]

* * * * *

The Witness: I have known Mr. Gregory for some years; I have a good deal of confidence in him.

His survey shows a total of 12,500 and some odd acres of irrigated crop lands this summer, within the boundaries of the riparian lands.

The Court: By that term you mean the lands lying between the escarpments?

The Witness: No, I mean—some of the riparian land is up on the bluff; but I mean the land shown within the dotted lines——

The Court: Very well.

The Witness: ——on Exhibit 7-51-1.

The Court: Yes.

Mr. Abercrombie: I don't like to object, but I think the use of the words "riparian lands" is a conclusion.

The Court: He clarified it. [939]

* * * * *

(Testimony of George E. P. Smith.)

The Witness: * * * Whereas, the San Joaquin River, back in the days of the early settlement of the country, the San Joaquin River leaked water both into Madera County and into Fresno County, even into the City of Fresno, and the water level here was around 75 feet in depth, and was coming from the San Joaquin River underground. [943]

* * * * *

The Witness: The inflow from the south, the escape of waters from beneath the high ground to the south, is limited to the area between Pinedale and Biola.

To the north between Friant and Pinedale the ground water contours might lead one to think that there was a big inflow there, but the geologic report, in report No. 11, it agrees with me in saying that it is negligible. [944]

* * * * *

Q. (By Mr. Rowe): But with the release that I stated of 200 second-feet at Friant and the area being defined as between Friant and Gravelly Ford and between the escarpments, and the release of 200 second-feet at Friant, would the wells in the river bottom be able to pump water?

A. Not adequately for their lands, no. Not adequately to make it profitable.

Q. Would some of the wells be unable to pump water?

A. Well, I suppose even if the water table went down 60 feet or 80 feet there would still be a possibility of a house well.

(Testimony of George E. P. Smith.)

Q. I mean would there be water for the agricultural wells between Friant and Gravelly Ford if the Bureau continued a flow of 200 second-feet at Friant?

The Court: Would there be sufficient water in the wells to maintain the uses for irrigation purposes to which that water has been and is now put?

The Witness: No, sir. [950]

* * * * *

The Court: The original question was, assuming 5 second-feet was flowing down the river past Folsom's property, what would that do to the Folsom well.

The Witness: It would be destroyed. [956]

* * * * *

Mr. Rowe: Mr. Boke on Tuesday promised to give us the cost of water per acre-foot delivered at Mendota Pool, and also the cost of lifting the water per acre-foot at Tracy.

Mr. Boke: I can give you that now, if you like.

The Court: Will you give it to Mr. McPherson. Do you have it?

Mr. Boke: Yes.

Mr. Rowe: He might read it into the record.

The Court: Do you have the data on that? [962]

Mr. Boke: I have the record out here but I can give it orally right now, if you like.

The Court: Very well.

Mr. Boke: The actual cost of pumping at the Tracy pump plant per acre-foot is 87 cents with power involved.

(Testimony of George E. P. Smith.)

The Court: 87 cents for the power?

Mr. Boke: For the power involved.

The Court: Yes?

Mr. Boke: Per acre-foot.

The cost of water in the Delta-Mendota Canal delivered at the Mendota Pool will range, depending upon the degree of operation, from about $2.70 per acre-foot to $3 per acre-foot. [963]

* * * * *

Q. (By Mr. Rowe): Professor, with such a provision of [966] 5 second feet of water per second flowing by force of gravity in an open channel, and the control point being defined "a point in any channel of the river where a live stream, as hereinafter defined, is at any time flowing or would most likely flow where such channel intersects the south boundary line of the said land extended due west"; would you say a live stream flowing past in the north channel, past Red Arnold's pump that we discussed here, of 5 second-feet, would supply the pumps on the south bank of the San Joaquin River, such as the Rank lands, Folsom lands, and other lands?

Mr. McPherson: I object, your Honor. There is no factual premises for the hypothesis or subject made by counsel.

The Court: Overruled.

Mr. Shaw: The question is, if the court please, what is "said land."

The Court: This contract,—I think this was debated before you got here.

(Testimony of George E. P. Smith.)

Mr. Shaw: We haven't been privileged to see it now.

The Court: It was proffered by Mr. McPherson as being typical of that offer to owners of property, typical and identical except for the description of the land and the amount of money involved, as that offer to all the lands owned by those who lie within the so-called river bottom escarpments. [967]

Mr. Abercrombie: If the court please, we object. As to how the live stream flowing past Arnold's land affects the Rank land, we think, is not a fair question. There should be added "assuming Mr. Rank also has a similar contract requiring 5 second-feet to flow past his land."

The Court: There is certainly no evidence that Mr. Rank had a contract offered to him, or would accept one. Objection overruled.

Mr. Shaw: Wouldn't it be fair to assume that the hundred other people had contracts such as this?

The Court: It would not. Maybe only one of the people would sign one.

Mr. Shaw: My recollection is the record shows a hundred other people have signed the contract, and this was a typical contract.

The Court: I don't know that the testimony is that a hundred people had signed them. The objection is overruled. He may answer the question.

In other words, insofar as that contract is concerned, in my examination of it, it makes no guar-

(Testimony of George E. P. Smith.)

antee it is going to deliver water to anyone else, and is only offered to that particular individual.

Go ahead and answer that question.

The Witness: If that is the meaning of "live stream," in my opinion a live stream is a gold brick, because if you [968] try to apply that 5 second-feet flow to a river bank pump, it becomes physically impossible to maintain a suction pipe permanently so as to avail yourself of any part of 5 second-feet.

The Bureau of Reclamation proposes to be responsible for the channel, the channelizing of the river so that that water will temporarily get over to the place where the river bank pump is; but they will not guarantee to keep the water there forever, only for a limited time.

Even if it is there, the suction pipe does not lap up the water as a cat laps up milk. It has got to extend its snout down into a body of this water, which will submerge it at least a foot, so that it won't suck air bubbles down. Therefore, there comes the necessity of sinking a sump underneath that suction pipe.

I don't know that the promise of a sump is written into any of the proposed contracts, but it has been stated verbally by the Bureau that they would do that, build a sump. But the river flow keeps bringing in sand, and will cover up the end of the suction pipe. That sump has got to be watched every day and cleaned out, and then pump a handsome flood down the river and bury the sump, and

(Testimony of George E. P. Smith.)

the suction pipe, all to a depth of several feet, and before the suction—before the flood goes down so the farmer can get in there and re-establish working conditions, his crop dies; [969] or, if he attempts to do it before the flood goes down, then the next day his wife is a widow, because the San Joaquin has a reputation of being a very violent stream and with great whirlpools. At least one person has told me of going down three times before she was rescued, in a whirlpool in the San Joaquin River.

I am getting off the subject.

But if you apply the proposal to Mr. Folsom's well or anybody's well, then I would say that as soon as the schedule of operations is initiated, 200 second-feet released at Friant, most of that 200 second-feet is going to appear at Gravelly Ford. There is a fallacy in the reasoning of the Bureau's hydrologists there. Only a small part of it will sink into the ground.

The supply for the ground water being cut off, because of so very feeble an amount of absorption, and that small amount being sucked off by the trees and the low lands with pasture grasses and shrubs, desert vegetation, which thrives on the lowest bottoms, and the pumps operating or trying to operate, there is only one conclusion: The ground water table will go down, and down, and down, as it has done in many parts of California where the ground water supply has been overpumped.

With no continuous absorptions similar to what the bottom lands have had in the past, and with the

(Testimony of George E. P. Smith.)

pumps continuing [970] to operate for 13,000 acres of crop land, the water table will go down rapidly.

I stated this morning that the best aquifer, which is the top aquifer—it is the youngest and most porous, and it continues from bank to bank, and that is where the main dependence is. As that is dried out, the farmers—the pump discharge may be reduced from a thousand gallons or more, which does enable him to operate — although that is a very small stream — down to 500 gallons, 400, 300, and ultimately almost nothing.

So the Bureau, in urging an exchange from a river pump to a well, is selling something which, when they introduce their low flow schedule, will become valueless in a few years. [971]

* * * * *

Q. (By Mr. Rowe): Professor, the Central Valley plan, which you are familiar with, contemplates a change of the point of diversion of a major part of the flow of the San Joaquin River from Mendota Pool to Friant Dam, does it not? A. Yes.

Q. What damage, specifically referring to the California water code that no point of diversion may be changed that damages any intervening riparian owner, will the intervening riparian owners be damaged by changing, and if so what damage will they suffer by changing the point of diversion from Mendota Pool to Friant Dam.

The Court: Not in terms of dollars.

Mr. Rowe: No.

Mr. McPherson: All right. That is different.

(Testimony of George E. P. Smith.)

The Court: In terms of water.

The Witness: It is a case of all or nothing. I would say that when the pioneers in about 1914 became so numerous that they had to start the use of irrigation on their lands, some of them, they did the natural thing which you or I would have done, they installed river bank pumps, and they have, [977] particularly since wells have not proven to be a good substitute, they have continued those to the present time, and it does seem to me to be a very reasonable method of diversion and I can't see how it could have been a reasonable method of diversion yesterday and not be a reasonable diversion today because my rival, or competitor for the water, has moved his point of diversion from below me to a point above me.

Does that answer your question?

Q. It does in part.

A. You asked for the damages.

The Court: Yes, in terms of water.

The Witness: I would say it is a case of all or nothing.

The Court: That is to say, they would be deprived of their water? Is that what you mean by "all or nothing"?

The Witness: Yes. You can have a water supply and carry on agricultural practices or you can quit and go into the mines to work.

Q. (By Mr. Rowe): Professor, this plan as read from the two contracts of 5 [redacted] feet beyond the point where the west boundary, and so forth,

(Testimony of George E. P. Smith.)

intersects the channel or projection of the north line intersects the channel, in your opinion will that plan of the Bureau work?

A. No, sir. The fallacy in the Bureau's plan is that they assume that if they turn down 200 second-feet it would be [978] absorbed and only 5 second-feet would reach Gravelly Ford. As a matter of fact, most of it would reach Gravelly Ford and the fellow with the well, if he is very close to the river bank, he might get some benefit from a 200 second-foot flow, but if his well is some distance away from the river bank, as stated previously, that important aquifer of the bottom land is going to be unwatered very rapidly. [979]

* * * * *

Q. (By Mr. Rowe): Professor, I show you Exhibit C of the amendment to the Rank complaint which contains certain legal descriptions. Did you prepare those legal descriptions? A. Yes.

Q. And would you explain to the court what they represent in relation to either the surface flow or underground flow of the San Joaquin River?

The Court: Counsel, in connection with that, and maybe the Professor would like this, this Exhibit which has been prepared has outlined in red the exterior boundary lines of the areas which were included in that exhibit.

Is that correct, Mr. McPherson?

Mr. McPherson: In the Rank case.

The Court: In the Rank case.

(Testimony of George E. P. Smith.)

Mr. McPherson: And in green in the Hollister case.

The Court: Yes.

(The exhibit referred to was passed to the witness.)

Q. (By Mr. Rowe): Referring to that Exhibit C—and then I will get to the map, Professor—as delineated in red on Defendants' [981] exhibit for identification K, what relationship has that area to the stream flow or underground flow or percolating water flow from the San Joaquin River?

A. Show me where Madera is.

Q. Taking your legal description——

The Court: Where is Madera on the map?

Mr. Rowe: Right here is Madera. (Indicating.)

The Witness: Now where is the river?

Mr. Rowe: Here is the river (indicating).

Q. By referring to your legal description first, Professor, what relationship does that bear to either the underground percolating water or stream flow of the San Joaquin River?

A. The design in that classification of lands——

Q. Exhibit C? A. Exhibit C.

Q. Of the amended complaint.

A. In Exhibit C of the amended complaint, was to show that under natural conditions there was a broad band of underflow moved away from the San Joaquin River Valley or trench northwesterly, that the accretions from the little streams like the Fresno River, Chowchilla River, and Cotton Creek, were trivial, that the San Joaquin River underflow

(Testimony of George E. P. Smith.)

moving from the San Joaquin River would extend and the ground water contours aid in this determination, and I only carried it I [982] think to the south line of Township 10, if I remember right. During the last 20 years the ground water level in Madera County has fallen from 30 to 40 feet and this broad band of underflow from the San Joaquin was a slow moving stream for the reason that the slope of the water table in a northwesterly direction is very small, only 3 feet per mile, and the pumping that has occurred in Madera County and the overpumping, we shall say, has lowered the water table so greatly and so unevenly as to make the actual origin of the ground water at a point difficult of ascertainment.

But reasoning in a general way, however, the ground water contours show the water coming from the San Joaquin River and reasoning deductively it could not come from anywhere else because the Fresno River, for instance, carries a flow only of 1 per cent as much as the San Joaquin River and it could have very little influence in determining this broad band of underflow which passes beneath Madera County. [983]

The Court: Professor Smith, I notice by that map, as the descriptions are transferred from their technical terms to this illustrated map, it appears to be something in the shape of a fan with the handle toward Friant Dam along the river and lying northerly, that is, on the Madera side—I said Friant River—lying northerly and in Madera County, of

(Testimony of George E. P. Smith.)

the San Joaquin River, to a point which is below Herndon—Herndon is where the highway crosses—some probably 9 or 10 miles, and then fans out.

Does that generally accord with your testimony this morning that the underground flow from the San Joaquin River passes both northerly and southerly of the river at a point below Biola?

The Witness: Yes.

The Court: In your compilation of that map did you have available to you and use, as data upon which you relied, the map showing the underground elevation of water tables contained in documents 11 and 12, which have heretofore been identified as exhibits numbers 25 and 26?

The Witness: No, I don't think they are in that.

The ground water elevations are presented in a map issued periodically, near the end of each year, by the Division of Water Resources, and based on surveys made after the irrigation season, say in October and November.

The Court: Each year? [984]

The Witness: Yes. And I had the Division of Water Resources' maps for 1948 and 1949.

The Court: 1948 and 1949, the Division of Water Resources' maps showing the ground level——

The Witness: That is right.

The Court: ——contours was part of the data on which you based your conclusion that all of the lands within that red boundary are affected and influenced by the underground flow of the San Joaquin River; is that correct?

(Testimony of George E. P. Smith.)

The Witness: Yes, sir.

The Court: Do you have those maps here? Could they be produced, so that the other counsel can examine them?

The Witness: I have one of them.

Mr. Rowe: I will produce them.

The Court: Mr. Rowe says he as them. Do you have copies of them, Mr. Rowe?

Mr. Rowe: No, I haven't.

The Court: Well, I think they should be marked for identification, so the other counsel and the engineers may have an opportunity to examine them.

The Witness: I think, your Honor, they are very familiar with them. Mine is marked up more or less.

The Court: I think perhaps they are familiar with them, but we can't take anything for granted.

The Witness: This has to be opened once more.

Mr. Rowe: Just a minute, I will help you out, Professor.

The Court: Let me see it.

The witness has presented a map here which has the legend on it, "State of California, Department of Public Works, Division of Water Resources. Lines of equal elevation of water in wells in upper San Joaquin Valley, fall of 1949."

It may have some key on here of the person who prepared it, or the draftsman, but I don't see it.

The Witness: It represents Mr. Burnett's work.

The Court: Mr. Burnett's work?

The Witness: Yes.

(Testimony of George E. P. Smith.)

The Court: The gentleman who testified?

The Witness: Yes.

The Court: This appears to run from an area——

The Witness: Near Bakersfield.

The Court: Below Bakersfield——

The Witness: To the Merced River.

The Court: ——to Merced County, and contains the Friant Dam area.

This is in 1949. You said you also used the 1948 map?

The Witness: I did, but I left that at Tucson.

* * * * * [986]

The Witness: * * * A million dollars worth of water went down to the ocean last winter; and if the Friant reservoir had 50 per cent more live storage, I think all of it could have been saved. [1004]

* * * * *

CHARLES H. LEE

called as a witness by and on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

The Witness: My name is Charles H. Lee. [1224]

* * * * *

Direct Examination * * * * *

Q. (By Mr. Rowe): Mr. Lee, will you just state your qualifications?

A. I am a civil engineer. My engineering offices are in San Francisco, California. I am a graduate of the University of California, class of 1905, civil

(Testimony of Charles H. Lee.)

engineering. Was licensed to practice engineering in the State of California and State of Arizona.

I am a member of the American Society of Civil Engineers, American Waterworks Association, American Sewage Works Association, Seismological Society of America, California Sewage Works Association, and other technical organizations.

I have been in active practice of my profession for about 46 years, as a civil engineer, specializing in hydraulics, sanitation, and surface and ground water hydrology, [1227]—seepage into and from streams, evaporation, transpiration, well fluctuation and yield, interpretation of ground water contour maps, safe yield of underground reservoirs, and irrigation practice.

From 1905 to 1906, I was hydrographic engineer with U. S. Geological Survey, in stream gauging throughout California, including Sacramento and San Joaquin Valleys, Southern California, and the Colorado River.

From 1906 to 1911, I was assistant engineer, City of Los Angeles, Bureau of Los Angeles Power Aqueduct; three years in charge of surface and underground water in investigations in Owens Valley. The report of this work was published by the U. S. Geological Survey as Water Supply Paper 298. Also study of irrigation diversions and practices in Owens Valley in connection with proposed storage regulation at Long Valley and on Big Pine Creek. I later made surveys for hydro-electric de-

(Testimony of Charles H. Lee.)

velopment in the streams of Owens Valley, for the City of Los Angeles.

In 1912, I was hydraulics engineer for California State Conservation Commission, in charge of ground water investigation, including special study of replenishment of pumped well supplies by spreading torrential flood waters of Santa Ana River in San Bernardino Valley, California. The report of this study was published by the State Conservation Commission. [1228]

From 1912 to 1917 I engaged in private practice as civil and hydraulics engineer in Los Angeles, including irrigation, water supply, ground water and geology in States of California, Nevada, and New Mexico.

From 1917 to 1919, I was on Military duty, as a Captain in the Corps of Engineers, United States Army, with the Army Expeditionary Forces in France, on military water supply and sanitation.

In 1919 to 1921, I was president of the California State Water Commission and, later, Chief of Division of Water Rights, State Department of Public Works. This was during a period of very active development of the water resources in California; and I, during this period of service, passed upon applications to appropriate water from the streams of California for storage and for direct diversion throughout the state, these applications coming in from all parts of the state, and involving investigations of conditions on almost every stream in the State, the consideration of protests from owners

of existing water rights, and working out agreements by which the appropriations which have been filed could be made, to the making of the maximum beneficial use of water without injury to existing owners of water rights.

From 1921 to 1951 I engaged in private engineering practice as consulting engineer in San Francisco, including irrigation, water supply, land drainage, sewage works, water [1229] works, and ground water investigations and utilization. I practiced in California, Nevada, Arizona, Oregon, and Hawaii. My clients included the United States Government departments, the Department of Justice, Department of the Interior, U. S. Geological Survey, U. S. Bureau of Reclamation, and U. S. Indian Service, the water department, United States Army and United States Veterans Bureau, the Navy, the Department of the Treasury, the U. S. Public Health Service, and the Federal Housing Authority.

Clients also included the State of California, State of New Mexico, municipalities, counties, water and irrigation districts, public utilities, private companies, and individuals.

In the course of my professional practice, I have contributed to the literature of engineering, particularly of ground water hydrology, in the Transactions of American Society of Civil Engineers; the Transactions of American Geophysical Union, National Research Council; International Union of Geodesy and Geophysics, International Association of Scientific Hydrology; various periodicals of a

(Testimony of Charles H. Lee.)

technical nature; and also printed books, such as the publication known as "Hydrology," which was part of a series of the Physics of the Earthy, Scientific Information, the editor of this particular volume being Mr. Oscar E. Meinzer, who was Chief of the Division of Ground Water, U. S. Geological Survey, for many [1230] years. The particular subject which I covered in that publication was the transpiration and total evaporation.

Many of my professional engagements have involved the study of ground water in relation to surface stream flow.

During the years 1914 to 1917, I was under contract with the U. S. Geological Survey, Ground Water Division, and I made an investigation and report on ground water resources of San Diego County, California. The report was published by the U. S. Geological Survey as Water Supply Paper 446.

From 1915 to 1916 I was employed by the City of San Diego to investigate and report on the effect of pumping from wells in Mission Valley, which depended upon the flow of the San Diego River. This information was later used in the case of H. D. Allen vs. City of San Diego.

During years 1915 to 1917, I was engaged by the U. S. Department of Justice, making investigations and giving testimony on seepage from the U. S. Bureau of Reclamation canals in the vicinity of Soda Lakes, near Fallon, Nevada. This is in

(Testimony of Charles H. Lee.)

the case of Natron Soda Company vs. the United States, in the United States Court of Claims.

1924 to 1936, I was engaged, at various times, in the investigation and giving of testimony in underground water injunction cases in Owens Valley, California, in the Superior Court of Inyo County, some of these cases being the McGann vs. City of Los Angeles, Edwards et al., vs. City of Los Angeles, [1231] Edwards, et al., vs. City of Los Angeles, and Hillside Water Company, et al., vs. City of Los Angeles.

In 1929, I was engaged by the Glenn-Colusa Irrigation District, to study and report on drainage of irrigated lands in Sacramento Valley near Williams, California.

From 1937 to date, I have been engaged by the Tia Juana Valley Water Committee, later organized as Tia Juana Valley County Water District.

Q. That is in Mexico?

A. That is in the United States, but the source of the Tia Juana River is in Mexico. I made an investigation——

The Court: You mean flows in that river, as well as Mexicans? I thought Mexicans were the only things that flowed in that river, across the line.

Mr. Rowe: The court is referring to the wetbacks.

The Witness: I presume there are some of the wetbacks, too.

The investigations made there were of water, not of wetbacks, and they included the study of the

(Testimony of Charles H. Lee.)

ground water conditions in Tia Juana Valley, in California, and into Mexico, and testimony in the case of Allen vs. California Water & Telephone Company, in the Superior Court of San Diego County. This case was later referred to the Division of Water Rights, State Department of Public Works, and is now under study by that office. [1232]

In 1941, I was engaged by the Santa Maria Valley Water Conservation District to investigate and report on the possibility of salt water contamination from oil wells in irrigation wells in Santa Maria Valley.

From 1947 to date, I have been engaged by the City of Riverside, making intensive investigation, studies and report on ground water conditions in San Bernardino Valley, California, in connection with the case of San Bernardino Valley Water Conservation District vs. City of Riverside, in the Superior Court of San Bernardino County.

I have also, in the course of my professional work, had special experience involving the relation of reservoirs to stream flow and irrigation diversions. One of the first of these experiences was in connection with the Long Valley Reservoir on the Owens River, in Mono and Inyo Counties in California, where I studied the relation of storage regulation to the local use of water for irrigation in irrigation ditches, the surplus to be used by the City of Los Angeles in diverting at the intake of the Los Angeles Aqueduct.

I made similar studies of reservoir storage on

(Testimony of Charles H. Lee.)

the Big Pine Creek, in connection with local irrigation on Big Pine Creek in Inyo County.

I later studied the Henshaw Reservoir on the San Luis Rey River, in San Diego County, to determine the effect of storage diversion in that reservoir upon pumped wells in the [1233] San Luis Rey River Valley.

While president of the State Water Commission, the matter of the Calaveras Reservoir, proposed by the Spring Water Valley Company, on Alameda Creek in Alameda County, California, was under study by the engineering department of the Commission; and I had very intimate connection with that study, which resulted in the setting up of a formula for release of storage water from that reservoir to maintain the supply of pumped wells on the Niles Cone.

Later I was engaged by the Great Western Power Company and the Sutter Butte Canal Company to make a study of the losses by evaporation from Lake Almanor on the Feather River, and the effect of the evaporation on water in storage in that reservoir, as related to the supply of the Sutter Butte Canal Company.

Subsequently I made a study of the Pardee Reservoir on Mokelumne River to determine the basis for storage releases——

The Court: I am satisfied you are an expert.

Mr. Rowe: If the court please, when our experts say "1400 second-feet down the river to preserve the underground wells,"——

(Testimony of Charles H. Lee.)

Mr. Reavis: I move to strike that as not a proper question to the witness, and self-serving.

The Court: It may be stricken.

Q. (By Mr. Rowe): For that gentleman in the corner, who [1234] asked about the dam that went out, did you investigate that?

The Court: Let us forget that, and get on with the trial of the lawsuit.

Mr. Rowe: I would like to show, to just elaborate a little, that he has studied similar problems to these, where they stopped the flow of the river right here, for 140 miles through rich agricultural sections of the San Joaquin Valley.

The Court: Well, have you?

The Witness: I have studied a number of reservoir conditions, where the reservoir would affect the flow of streams for many miles in developed irrigation districts, in irrigation areas.

Q. (By Mr. Rowe): What happened, Mr. Lee? Did you study the effect of the stoppage, by Pardee Dam, on the Mokelumne River, on the fan of that river between Stockton and Sacramento, and whether, if you cut off the water supply, it will dry up farmers' wells?

Mr. Abercrombie: If the court please, we are not going back to the Rank case, are we?

The Court: I am satisfied with the witness' qualifications, that he is an expert. [1235]

* * * * *

[Title of District Court and Causes Nos. 680 and 685.]

REPORTER'S TRANSCRIPT OF PRETRIAL HEARING

Fresno, California
December 20, 1951

Appearances

For the Plaintiffs: Claude L. Rowe, Esq., Security Bank Building, Fresno 1, California.

For Defendants Boke, Blote, Rodner and Durant: Joseph F. McPherson, Special Assistant to Attorney General, Federal Building, Los Angeles 12, California.

For Intervenor State of California: Edmund G. Brown, Attorney General, State of California; by Arvin B. Shaw, Jr., Assistant Attorney General, Los Angeles, California; and B. Abbott Goldberg, Deputy Attorney General, State of California, San Francisco, California.

For Terra Bella Irrigation District, Porterville Irrigation District, Exeter Irrigation District and Delano-Earlimart Irrigation District: James K. Abercrombie, Esq., 410 Bank of America Building, Visalia, California.

For Lindsay-Strathmore Irrigation District, Lindmore Irrigation District, and Ivanhoe Irrigation District: James K. Abercrombie, Esq., 410 Bank of America Building, Visalia, California.

For Saucelito Irrigation District and Orange Cove Irrigation District: James K. Abercrombie,

Esq., 410 Bank of America Building, Visalia, California. [2]

For Tulare Irrigation District and Lower Tule River Irrigation District: James K. Abercrombie, Esq., 410 Bank of America Building, Visalia, California.

For Stone Corral Irrigation District: James K. Abercrombie, Esq., 410 Bank of America Building, Visalia, California.

For Chowchilla Water District and Served Directors: Green, Green, Plumley & Kuney, 219 South D Street, Madera, California; by Denslow Green, Esq.

For Madera Irrigation District: Harold M. Child, Esq., 431 Brix Building, Fresno 1, California; and L. N. Barber, Esq.

For Southern San Joaquin Municipal Utility District: J. O. Reavis, Esq., First National Bank Building, Delano, California. [3]

* * * * *

Mr. McPherson: It is entirely satisfactory to me.

The Court: It would seem to me that that would be the appropriate order to proceed.

Mr. Shaw: May I make a suggestion, and possibly a motion?

The Court: This was your original idea. That is the reason I am here.

Mr. Shaw: This may tend to short-cut or simplify the trial of the case.

Under the decisions of the Supreme Court of California——

The Court: In the Rank case now?

Mr. Shaw: In the Rank case.

Under the decisions of the Supreme Court of California the question of physical solution is one which may be in this case the major question which the court has to determine, granting that there can be subsidiary and collateral things which the court must direct its attention to ultimately.

I have a feeling, which has been reinforced by hasty examination of the three plans which have been submitted, that there is serious probability that the determination of the court with respect to a physical solution, if it should happen to be favorable to a plan of physical solution, would eliminate a great deal of introduction of evidence, would point up the subsidiary issues which may be involved so that [16] they can be clearly understood and identified and handled in the trial, and that a large amount of technical and expert testimony may be eliminated, if the court would care to direct the order of proof at the trial, first to the issue of physical solution.

I am reinforced in the feeling that that would be worthwhile by examination of the three plans, because it is observable from them that all three adopt the same approach to the solution of the problem, that is, the installation of check-dams and other channel improvements, and so forth, and they all three use the same method as well as the same approach.

The significant difference between the three plans is that the Bureau officials' plan contemplates one check-dam, with the statement that experience and

observation—I am speaking very roughly here—experience and observation may lead to the advisability of several additional check-dams.

The State's plan specifically calls for five check-dams instead of one.

The plaintiffs plan specifically calls for 12.

It is quite obvious from an examination of the three plans that they are harmonious in approach and in method, and without being too technical in interpretation of the three plans, they indicate a general consensus on the part of all three interests which have submitted plans that a [17] physical solution is possible which will equitably protect the riparian and underground basis in reasonable beneficial use of water from the San Joaquin River, and that being true of the court accepts the premise that I am just stating, it would seem that the view of the Supreme Court of California, that if such a physical solution, if possible, if equitable and fair, winds up the court's inquiry, it has much more force than if there were a difference of opinion among these three groups of engineers as to the possibility of an equitable solution.

So I suggest, and if it is in order I would move, that the court now consider the making of an order directing the order of proof at the commencement of the trial to this subject of physical solution, recognizing fully, as I do, that so far as I am concerned I have not digested these plans in detail to the point of having a conviction as to what should be advocated or what we should ask the court to do about it, recognizing that any plan prepared by any-

body is subject to criticism and to constructive modification, and that the court may at the conclusion of the examination of this subject come up with an opinion that all these plans, shall we say, should be fused together and some details taken out of each rather than simply stamp one of them approved and discard the others.

I think that is the function of the court in considering [18] a physical solution, to determine the validity of any plan and to decide what the plan should be.

If it is in order, I would move that the court make an order directing the order of proof as I have indicated and suggest that the court ask for expressions of opinion from counsel as to that idea.

The Court: What would be the corollary things that would have to be decided in addition to the decision concerning the physical plan?

Mr. Shaw: Well, there are in the State's plan and the Bureau officials' plan three or four points or questions as to who shall be the beneficiaries of this plan, for whom the plan shall be designed to operate, which I think before we get through with the trial the court would have to determine, that is, to identify the scope of the beneficiaries who are to be served by any plan.

Speaking now more specifically——

The Court: How would that be done, by defining the perimeter of areas and the class?

Mr. Shaw: That, in part. The ground water area to the north and a trifling area to the south would have to be delimited, but I am thinking of

certain classes of persons. No. 1, the persons who have made certain contracts with the Bureau of Reclamation for either money or improvement work of one kind or another, or for a continued flow down the [19] river for the benefit of their particular lands. Those persons would have to be identified, I assume, and either included or excluded from the operation of the plan depending on just what the plan was and depending upon the court's conclusion as to whether they should participate in the plan at their own expense or at the expense of the Bureau of Reclamation, which means the expense of the Central Valley Project, not the United States. That is one subsidiary subject.

A second is the small number of parcels, as I understand it, that appear to be under Miller & Lux reservations.

The Court: Within the Rank case?

Mr. Shaw: Within the Rank case; yes, sir.

The Court: And various types of reservations?

Mr. Shaw: That I am not clear about, but I have gotten the impression that there may be.

Mr. Rowe: It is my view that they are the same reservations, that the same reservations can be found in both cases.

The Court: Let us just talk about the Rank case now.

Mr. Rowe: Pardon me for interrupting, Mr. Shaw.

Mr. Shaw: There may be variations in the form of these Miller & Lux reservations. They are confined to a comparatively small number however.

What is the number, Mr. Werner, of the Miller & Lux parcels in the Rank case?

Mr. Werner: The number of them? [20]

Mr. Shaw: Yes. Is it a dozen or four or what, as shown in the report?

Mr. Rowe: Eight.

Mr. Werner: Actually five which have river pumps.

Mr. McPherson: According to my information, your Honor, there are 37 parcels in the Rank case which are affected by one or the other types of Miller & Lux reservations.

Mr. Rowe: Mr. McPherson's plan, at page 5, says 38 holdings, involving about 2000 acres of land, were formerly owned by Miller & Lux, and so forth.

Mr. Shaw: A third subject of inquiry would be the position of any landowners who are involved in the Rank case who have suits pending in the Court of Claims.

Mr. Child: May I hear that again, Mr. Shaw?

Mr. Shaw: Those having suits in the Court of Claims.

Those have already indicated the necessity of identifying the underground areas or the underground basin which would have to be delimited somehow for the benefit of which the plan was to operate.

Then, and entirely as a separate inquiry, and not directly connected with the operation of the plan, would be the necessity apparently to determine compensation to various landowners within the general area for comparatively minor disturbance of their

original rights or their practices which would be the simple process of assessment of damages in [21] the sense of a reimbursed condemnation basis, if we reach that point.

In other words, if the plan is to go into effect there may still be minor elements of compensation which would have to be assessed, either by voluntary agreement or by process of court inquiry.

The general suggestion and motion which I have been attempting to state is directed, however, to pointing the lawsuit, or the trial of the lawsuit, toward particular issues, first with the expectation that whatever incidental or subsidiary or subsequent steps that need to be taken could be isolated and treated perhaps more compactly and more clearly than if we pursue the normal process of the plaintiff making his own choice as to the method of introduction of his evidence and the defendants proceeding likewise.

The Court: A thought just occurs to me in connection with the last inquiry which you suggested, a separate inquiry to determine compensation, but before stating that thought I notice that in all of the plans and the approach of all of the parties to the Rank case there is, as the Bureau of Reclamation has stated in its various reports, a recognition of the water rights of the plaintiffs.

Now I do not mean to say by that that the plaintiffs in the class as claimed which has not been limited, but it is a recognition that water rights exist on the river and that if [22] there is any substantial impairment by any plan of physical solu-

tion, or if there is any impairment or taking by the operation of the dam and improvement on the river without consideration or without the adoption of a physical plan, that there should be compensation paid.

All of this leads up to the inquiry which I have in mind, and that is whether or not the Government has given any consideration to joining as a party to the suit rather than to leave the parties to the suit the so-called officials of the Bureau of Reclamation.

Mr. McPherson: At the moment, the answer is no. The plan proposed by the four served employees of the Bureau of Reclamation, so far as I am informed—and I think correctly informed—have not submitted their proposal to the Bureau, to the Department of the Interior or to the Department of Justice for approval, and I do not apprehend that there would be any necessity or occasion for doing so unless and until the proposal made by Mr. Shaw, with which I am in complete accord, has been carried to a conclusion, that is to say, an issue framed and tried as to whether or not a plan of physical solution which would bear the court's approval can be ordered in this case.

The issue then would arise as to whether the Government could and would implead itself in the case and undertake to execute that plan. [23]

The Court: Not only the execution of the plan, but pay compensation in the event that is required.

Mr. McPherson: Certainly. When I say "plan" I mean to apprehend that some part or parts of

these plans will be found acceptable to the court in a composite plan of physical solution.

It is inconceivable to me that you could make such a plan, or that any one of the three of them contemplates, that some impairment of water rights presently existing and being valid under the laws of the State of California, which the Government is bound to recognize, would not be impaired to the point in some instances of an outright take. If such is the case, and I am sure it is, the Government of necessity in considering the plan would have to recognize its obligation to answer in damages under the Fifth Amendment to those people by way of compensation.

The Court: Rather than to subsequently compel them to file suits in the Court of Claims or under the Tort Claims Act, and so forth?

Mr. McPherson: No, sir. What I had in mind, if I may state it, though it represents my personal, individual view, though I have discussed it with Mr. Shaw and Mr. Goldberg and with Mr. Mulroney and others in the Bureau, that if—and I am sure such can be done—a plan of physical solution can be evolved out of these suggestions which the court can [24] order to be put in execution, the Government in the event it should accept the recommendation I would then make, assuming it is not onerous to the point of being uneconomic, would on its impleader and as part and parcel of its agreement to execute the plan, commit itself to answer in damages in this suit to those persons who are entitled to compensation.

Now what Mr. Shaw and I have in mind, however, is that this large group of lawyers should not be compelled to sit here, or any of us for that matter, maybe to try these claims to compensation which may be from separate groups or individually or, as I apprehend if our experience holds true, of 85 to 90 per cent of them, would settle by direct negotiation and a relatively small number would have to come before your Honor, or whoever sits, to have a jury adjudication. They would be small in number, I can assure you.

The Court: If I understand you correctly, it is your present contemplation that the United States should not become a party to the suit unless and until the issue of physical solution was tried.

Mr. McPherson: That is my present opinion, your Honor. It is subject to suggestion or modification as we consider the plans. Actually you will appreciate that neither Mr. Shaw nor I have had them in our possession. I read them through once. I am not prepared to say that they constitute a plan which I can and would recommend to the Attorney [25] General that he commit the United States to execute.

I am of the opinion that these gentlemen have done a very splendid piece of work on all sides, and when you realize that the difference between them represents really in substance a different engineering approach to the same identical facility, its location and design, in effect that is about all they differ about, that we have made remarkable strides.

The Court: I think so too. I think the engineers are certainly to be commended for making better progress than an equal number of lawyers could on an equal number of occasions.

Mr. McPherson: I would not concede that, but I am willing to recognize the excellence of their work.

Mr. Rowe: I am glad the only difference, your Honor, is the location of these facilities and their construction, that they are not disagreeing with me on *the 500 second-feet we recommend.*

The Court: We will get around to that later.

Mr. McPherson: In other words, if you would adopt Mr. Shaw's suggestion, that what appears to be a long, tedious, almost endless trial could be reduced to a matter of two or three weeks at the very outside, that is to say, if we tried the issue as to whether or not a physical solution can be made, what that shall consist of, to a conclusion, these other collateral questions that necessarily suggest [26] themselves could be tried separately at leisure and without embarrassing all of these people or requiring their attendance over a long extended period of trial.

In my opinion, it wouldn't take you more than 10 or 15 trial days at the very outside to determine that a plan of physical solution can be worked out and that this it is.

The Court: Mr. Abercrombie, I think most all of the districts have looked upon you more or less as a spokesman. What are your views on this pretrial situation?

Mr. Abercrombie: Well, if the court please, without committing ourselves to any particular plan of physical solution, we are in accord that that is the proper procedure. We see no purpose to be served in trying a lot of collateral issues when we feel that in the final analysis that everyone will arrive at the same answer in the end, namely, that these rights can be economically served without a waste of water, more economically after all, which is what we are interested in, because my people and the others representing the districts here are going to have to pay the bill.

Now I still would like to have the Government come in and intervene in this or in another action and condemn all these rights, whatever it costs, but we feel that a physical solution is more economical, more practical and, as I say, without committing ourselves to any particular solution, we think the court's inquiry should be directed to that just as Mr. Shaw says. [27]

The Court: Let me ask you this, Mr. Abercrombie: Have you examined the answers of the various districts, all of them?

Mr. Abercrombie: I have examined them hurriedly. I think they are more or less the same.

The Court: Do all of the answers recognize that the plaintiffs, without a limitation as to the situation of the class or where they are, have water rights?

Mr. Abercrombie: I think I am safe in saying that all of the districts recognize that there are water rights on the San Joaquin River between

the Dam and Gravelly Ford and that they have to be dealt with either by eminent domain or by physical solution. And, as I say again, from the standpoint of these districts——

The Court: Or by injunction?

Mr. Abercrombie: Well, that would be a physical solution.

The Court: Yes, I guess it would.

Mr. Abercrombie: We have felt and still feel that whichever course is the more economic is the one that should be followed, and it appears from what I know of it now that a physical solution is the more economic course.

Now this trial procedure that has been suggested doesn't mean to commit the court, as I understand it, that the court's decision will be as of now that the court will decide that it [28] will be a physical solution, but simply that that issue will be tried first and only if it turns out to be economical would the court proceed in the manner.

I think that the United States couldn't graciously permit any other course. They would have to then intervene and, if it turned out to be an uneconomic physical solution, in order to protect its investment in the project they would have to condemn these rights.

The Court: In other words, your thought is that it would leave it up to the United States to make a decision as to whether or not it would accept a decree of physical solution or condemn?

Mr. Abercrombie: Based purely on economics, recognizing that these rights do exist as far as we

are concerned. But I am satisfied personally that the physical solution is the economic procedure and I don't anticipate that it would be necessary to go any further. [29]

* * * * *

Mr. Rowe: All right.

Is that stipulated, Mr. Shaw?

Mr. Shaw: See if I am clear as to your suggestion: if your statement by the title company shows (1) that parcels in green or blue have not changed title since June 1939, (2) that they have changed title but have not been divided in any degree, (3) that they have been divided and——

The Court: Reservations made or not.

Mr. Shaw: ——either the divided area has been granted a riparian right or it has not, I think you have the proposition surrounded and I would stipulate that such a list divided into those three categories be accepted.

Mr. Rowe: How about this, a title report on the lands in the green and blue from January 1, 1939, showing any changes since the date of that map?

Mr. Shaw: That is agreeable.

The Court: Very well. I think that would probably be preferable, a title report since January 1, 1939 on the lands in green or blue.

Mr. Rowe: Or as of the date of Exhibit 24. What date is that?

Mr. Shaw: That is the lands in green and blue and within the dotted lines.

The Court: We had better anchor it back here

to this Plate 3, which is dated June 1939. I suppose that would be [98] the 1st of June, 1939.

Mr. Rowe: Yes, from June 1, 1939, I will produce a title report showing all changes made on those lands were changes have been made.

The Court: In green and blue on Exhibit 85.

Mr. Rowe: In green and blue on Exhibit 85, or where no changes, a report of a title company that there have been no changes since June 1, 1939.

The Court: The long and short of it then is that you offer to produce in lieu of deeds, and so forth, a statement by the Security Title Company showing the status of the titles from the 1st of June 1939 to the date of trial, January 15, or say January 1, 1952, of all of the lands shown in green and blue on Exhibit 85.

Mr. Rowe: Not that I will produce, that such a report will be acceptable as proof. Let's put it that way.

Where a report from the Security Title Company on the lands in green and blue on any changes since June 1, 1939 be acceptable as the condition of the title since then on the lands within the dotted lines?

Mr. McPherson: I will accept such a certificate as the court outlined that they make.

The Court: That is the chain of title to June 1, 1939.

Mr. Rowe: Yes.

The Court: Whether changes or no changes. [99]

Mr. Rowe: Yes.

Mr. McPherson: And if there is a change, what it consists of.

The Court: Yes.

Mr. Shaw: I notice in looking over this exhibit that the information furnished by the title company to the State for the purpose of preparation of this report was obviously assembled some time before June 1939. I think it makes very little difference in the mechanical process that the title company would use, but I would suggest that we use the date January 1, 1939.

The Court: That was the date we first proposed, January 1, 1939.

Mr. Rowe: All right.

The Court: Is that agreeable, Mr. Shaw?

Mr. Shaw: So stipulated.

The Court: How about the Districts?

Mr. Green: So stipulated.

Mr. Abercrombie: That is agreeable.

Mr. Reavis: That is agreeable.

Mr. Child: So stipulated.

The Court: The next class of lands were the appropriative or prescriptive. You have stated that the Tranquillity District expects to intervene?

Mr. Rowe: Yes. [100]

The Court: When did you expect to give the defendants time to answer? They have 20 days under the law and January 15 would not give them time.

Mr. Rowe: I would do it this way: If the complaint in intervention will be in within one week from today, it can be stipulated that it will be denied in all particulars.

The Court: They may want to have some affirmative defenses, I do not know.

Mr. McPherson: Of course.

Mr. Rowe: That would come as the latter part of the proof anyway.

The Court: How can the Tranquillity District get into this lawsuit? They are way down yonder in the slough, are they not?

Mr. Rowe: Yes, but they have been served with water originating in the San Joaquin River.

The Court: They do not come within the class of being riparian or appropriative or prescriptive in the area between Friant Dam and Gravelly Ford.

Mr. Rowe: Yes. The original complaint, and the one as amended, you will see crosses into their lands. They are riparian and have exercised riparian rights for years out of the waters coming down through Friant Dam.

The Court: Above Mendota?

Mr. Rowe: Above Mendota. I didn't use Gravelly Ford in [101] my original complaint, I used Mendota Dam. The engineers are the ones that are using Gravelly Ford.

* * * * *

Mr. Goldberg: Who ever named an irrigation district "tranquillity"?

The Court: Yes, somebody must have been asleep when they named that one.

Mr. Green: If the court please, on prescriptive and appropriative rights, I don't believe that we can reach any stipulation here today as to those anyway. I don't believe he has very many parcels that would contain that type of proof. I suggest that that be additional proof in the trial.

Mr. Rowe: I think prescriptive and appropriative rights should be a special issue, which shouldn't take long to try. There are only a very few of them. We are not stipulating as to that. I will have to prove that.

The Court: It seems to me whoever claims any rights between Friant and Mendota ought to be brought in under this tent, so that whenever there is a decree entered in this case that settles them and everything will be done, and it will lay at rest and neither the Government nor the District Court should be confronted with the proposition of having to file or contest some other suit later on concerning some right which could have been settled in this lawsuit.

Mr. Rowe: That is right.

Mr. Shaw: May I ask a question, Mr. Rowe?

Mr. Rowe: Yes.

Mr. Shaw: Is it a fact that the Tranquillity [104] District pumps from the back waters of Mendota Pool? [105]

* * * * *

In the United States District Court, Southern District of California, Northern Division

No. 685-ND

EVERETT G. RANK, et al., Plaintiffs,

vs.

JULIUS A. KRUG, etc., et al., Defendants.

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Fresno, California
January 31, 1952

Honorable Peirson M. Hall, Judge Presiding. [281]*

* * * * *

EUGENE L. CHRISTIAN

called as a witness by and on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

The Clerk: Your full name, please?
The Witness: Eugene L. Christian.
The Clerk: C-h-r-i-s-t-i-a-n.
The Witness: That is right.

Direct Examination

* * * * *

(The document referred to was marked Plaintiffs' Exhibit No. 34 for identification.)

Mr. McPherson: As I understand—I don't mean

* Page numbers appearing at top of page of Reporter's Transcript of Record.

(Testimony of Eugene L. Christian.)

to mislead [412] the witness or counsel, but this letter, this tabulation, includes all losses from the river, does it not?

The Witness: That is correct.

Q. (By Mr. Rowe): Now, referring to——

Mr. Shaw: Is that 34 for identification?

Mr. Rowe: Yes.

Q. Referring to Plaintiffs' Exhibit No. 34 for purposes of identification, what losses do the figures in the second right-hand column include?

A. They include all unmeasured losses from the river. That would be seepage, evaporation, seepage of percolation, or any other unmeasurable losses.

The Court: Pumping?

The Witness: It does not include the pumping.

Q. (By Mr. Rowe): Would it include transpiration? A. It would.

Q. Now, would these same seepage losses be applied by you in executing your exchange contracts for deliveries to Mendota Pool?

A. Will you repeat the question?

Mr. Rowe: Will you read the question, please?

(Question read by reporter.)

Mr. Abercrombie: If the court please, it includes transpiration and many other things, and the letter doesn't show seepage, as such, as I understand.

Mr. Rowe: I will have to eliminate——

The Court: Rephrase your question.

Q. (By Mr. Rowe): Mr. Christian, this letter, dated January 7, 1952, mentions Temple Slough. Would the same total losses, as shown on the right-

(Testimony of Eugene L. Christian.)

hand column of Plaintiffs' Exhibit 34 for identification, apply in the carrying out of the exchange contracts with the Miller & Lux subsidiaries and the United States Bureau of Reclamation, to Mendota Pool?

Mr. Abercrombie: I can't understand that myself, if the court please. Maybe the witness can. I move to strike it.

The Court: Do you understand the question?

The Witness: Not clearly, no. If I may be permitted to answer as I understand it,——

Mr. Rowe: Yes, I think we understand each other.

The Witness: The losses in the river are substantially the same, whether they are measured at Mendota Pool or at Temple Slough. In other words, practically no losses occur below Mendota Pool.

Mr. Rowe: That is all I wanted to know from this witness, and I ask that this exhibit——

The Court: That is, what you call unmeasured losses?

The Witness: Unmeasured losses, yes, sir.

Mr. Rowe: I ask that now go in as plaintiffs' exhibit 34.

The Court: Admitted. [414]

* * * * *

Mr. Rowe: I move that the City of Fresno come in as a named plaintiff in the class action, solely as regards the lands lying north of the alluvial cone and with regard to the percolating waters only, in accordance with that resolution. [527]

* * * * *

ERNEST W. GUSTAFSON

called as a witness by and on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows: [613]

* * * * *

Recross Examination

Q. (By Mr. Green): Mr. Gustafson, have you ever taken any water directly from the river for use on this land? A. No, I haven't.

Mr. Rowe: I object to that, incompetent, irrelevant and immaterial.

The Court: Overruled.

Mr. Rowe: A user doesn't lose his rights——

Q. (By Mr. Green): Do you plan to do that in the future? A. I don't think so.

Q. How much water do you want to flow down the river, Mr. Gustafson?

A. Enough to keep the water level up in my well, that is all I know.

Q. And so far as you know, the water level has never dropped in your well yet, has it?

A. Yes, it has.

Q. What——

A. When they drilled the well, it was 26 feet. The water is now about 38, or maybe less. I haven't measured it for a couple of years.

Q. I thought you testified it was 30 feet to water.

A. No, I didn't. [628]

The Court: 38, the irrigation well, when they drilled it it was 20.

(Testimony of Ernest W. Gustafson.)

The Witness: The lower house well is about 28 or 30 feet.

The Court: When did you drill in the irrigation well?

The Witness: In 1922.

Mr. Rowe: And that was before the Bureau of Reclamation started operation?

The Witness: Oh, yes, long before.

Q. (By Mr. Green): Now, did you ever measure your well between 1922 and—when was the last time you measured it?

A. I think it was 1948 when the power company measured it.

Q. That was the time it was 38 feet?

A. Yes.

Q. Now, had you ever measured your well between 1922 and 1948?

A. Well, the pump company did when they had it out one time, but I don't remember what it was.

Q. You can't remember whether it had risen or fallen since 1922?

A. It hadn't risen, I know.

The Court: Do you know whether or not a state agency has come in to measure your well, from time to time, for the [629] Bureau of Reclamation?

The Witness: I don't know. I haven't been on the place now. They might have been out there and measured it when I wasn't there, I don't know.

The Court: Any other questions?

Mr. Green: That is all.

Mr. Goldberg: I have a question or two.

(Testimony of Ernest W. Gustafson.)

Recross Examination

Q. (By Mr. Goldberg): Have you ever been short of water on your place?

A. Well, not exactly.

The Court: What do you mean by that?

The Witness: There was one time when the river was real low; when my pump stopped, and when I come to start it the water was below the bowls in the pump.

The Court: When was that?

The Witness: That was in about 1937. That is when I pulled the pump out and lowered it.

The Court: Oh, you lowered the pump in 1937?

The Witness: Yes. When I put the pump in the water was high, and I put in a short setting, and I lowered it twice since.

The Court: Any other questions?

Q. (By Mr. Green): Then it was in 1937 you first noticed your water [630] table was dropping? Is that correct?

A. I think it was in 1937. That is when I pulled the pump out.

Mr. Green: That is all.

The Court: The witness is excused. [631]

* * * * *

WILLIAM JEFFERSON DAWSON

called as a witness by and on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

The Clerk: State your full name.

The Witness: William Jefferson Dawson.

Direct Examination [659]

* * * * *

The Court: How did your grapes get their water?

The Witness: From subirrigation.

The Court: From subirrigation?

The Witness: That is right.

The Court: You at no time put in any surface irrigation?

The Witness: The land wasn't even leveled for surface irrigation.

The Court: Do you have any wells on the land?

The Witness: There was one well drilled many years ago for the dual purpose of irrigating a garden and the house.

The Court: That is for domestic uses?

The Witness: Yes, and livestock.

The Court: And did you have livestock there?

The Witness: Yes, there had been dairy and feed cattle there.

The Court: Dairy and feed cattle. And you got the water from that well for those purposes?

(Testimony of William Jefferson Dawson.)

The Witness: That is right.

The Court: How deep is that well?

The Witness: The well is 208 feet I believe.

The Court: How far to the surface of the water on your last reading?

The Witness: That well is on a high knoll and the building [669] site is on a high knoll next to the bluff and the water—it is approximately around 32, 33 feet to water.

The Court: Now in 19——

The Witness: Pardon me. It is around 23 or 24 feet, I would say.

The Court: You take regular measurements?

The Witness: Well, I have checked it periodically, yes, and it has been measured in the interest of knowing that this was going to come up.

The Court: By the State?

The Witness: By the State and by the Bureau and by farmers in general around me.

The Court: When did you take out your grapes?

The Witness: They have been going out—I took out a lot of them this year, but the majority of them I took out after '42.

The Court: After '42?

The Witness: That is right.

The Court: And were they drying up?

The Witness: Yes, sir. There were spots starting to come into them. They were drying up suffering from water.

(Testimony of William Jefferson Dawson.)

The Court: From lack of water or from too much water?

The Witness: From lack of water because I couldn't irrigate a lot of them by surface irrigation. At the time that they were planted there was no need of top irrigation and the [670] ground wasn't leveled and they were just planted and they grew from irrigation.

The Court: You have been gradually taking them out since?

The Witness: That is right.

The Court: Have you taken them all out?

The Witness: I have taken them all out and I have started replanting vines.

The Court: Grapes again?

The Witness: That is right.

The Court: Have you leveled the land in the meantime?

The Witness: Yes, sir.

The Court: And prepared it for irrigation?

The Witness: I have had to level the land and I have had to put in pipelines.

The Court: You have leveled it and put in pipelines?

The Witness: That is right.

The Court: Have you had any irrigation since you have leveled it and put in your pipeline?

The Witness: Yes, sir, I have also had to drill another well and put in a deep well pump. In fact, I put in two deep well pumps.

(Testimony of William Jefferson Dawson.)

The Court: You have two more wells?

The Witness: One more well.

The Court: How big? [671]

The Witness: It is 53 feet deep.

The Court: How far from the river?

The Witness: It is approximately between a half and three-quarters of a mile airline.

The Court: How far to water when you drilled the well?

The Witness: It was 6 feet to water. That was in 1946.

The Court: What is it now?

The Witness: And right today it is standing at about 12½ feet.

The Court: By the way, have you planted your vines?

The Witness: I only have 6 acres of young vineyard and 40 acres of cotton.

The Court: You have irrigated the cotton?

The Witness: That is right. That is cotton land that has had to have been leveled too.

The Court: In other words, you have irrigated since 1946?

The Witness: I have irrigated since '42.

The Court: Since '42?

The Witness: That is, the whole thing. [672]

* * * * *

A. SEGEL

recalled as a witness by and on behalf of the plaintiffs, having been previously duly sworn, resumed the stand and testified further as follows: [711]

* * * * *

Mr. McPherson: Before we leave Exhibit 35, just as a matter of helping me understand it, may I ask the witness one question?

The Court: Surely.

Mr. McPherson: What are these areas that appear to be blocks set inside of what I understand is the line of the city limits? There is one in the southeasterly portion, one in the northeasterly portion, and several in the northwesterly portion inside the city limits.

The Witness: Those shaded areas you refer to are portions of land still in the County.

The Court: So the city surrounds them?

The Witness: Yes, sir. Those are islands.

Mr. Abercrombie: Do I understand, Mr. Segel, that these lines, dotted, dash, and solid, represent the network of what are distribution lines of the city?

The Witness: Yes. The original blue line on the diagram [714] itself show the position of the water mains.

Mr. Abercrombie: Well, I have a photostatic copy of it here that doesn't show that. There is some confusion.

The Court: Pardon me?

Mr. McPherson: We can't tell where the distri-

(Testimony of A. Segel.)

bution lines are on our map. Can we see yours for a second?

The Court: I am not sure I can tell.

Mr. McPherson: Let's ask the witness.

Mr. Abercrombie: The map which is handed the court is apparently printed in blue, so that all these dotted and dash lines on this map are water lines of one type or another?

The Witness: Yes, sir.

Mr. Abercrombie: They are all an integrated system, are they not?

The Witness: Yes, all connected.

Mr. Abercrombie: Each well pumping into the common supply?

The Witness: A total bridge system of the entire city.

Mr. Abercrombie: In that case, if the court please, we move that the City of Fresno be stricken as a plaintiff in this action, because it is asserting an interest adverse to other members of the class, that is, exporting water from the alleged zone.

The Court: The heavy blue lines are a one-sided main, [715] I take it?

The Witness: They are.

The Court: Then are the solid lines—the dotted lines are what? For instance, the dotted lines along McKenzie Avenue in the center of the map.

The Witness: Those dotted lines you were pointing to, are water mains four inches in size. The other lines——

The Court: What are these little things?

(Testimony of A. Segel.)

The Witness: Those are hydrants.

The Court: Oh, hydrants?

The Witness: Yes.

The Court: Fire hydrants?

The Witness: Yes, fire hydrants.

The Court: And the heavy blue lines, such as this one running along Broadway and some other street here—I can't tell what it is——

The Witness: Those are the larger mains.

The Court: All right. Now, how is your system integrated? The water is pumped from wells into tanks located in various sections of the city, and distributed from the tanks?

The Witness: Partly so, but generally they pump directly into the distribution system.

The Court: Which is all interconnected?

The Witness: Yes. [716]

* * * * *

Mr. Rowe: At this time I ask, in accordance with the resolution of the board of directors of the Tranquillity District, that they be admitted as a named plaintiff as to the lands, the underground and percolating water rights, described within the boundaries of the alluvial cone of Mr. [821] Lee's map. [822-823]

* * * * *

Mr. Rowe: I am going to call Mr. Lee. But first I would like a ruling on the motion.

The Court: The motion on Tranquillity?

Mr. Rowe: Yes.

The Court: Let me see, you had two other witnesses who testified, Mr. Martin and Mr. Johnson.

Mr. Rowe: Mr. Johnson, Mr. Martin and Tranquillity.

The Court: The objections to Tranquillity are overruled and the motion to join Tranquillity as a named plaintiff is granted, subject to the same conditions which I indicated would apply to the City of Fresno. [865]

* * * * *

CHARLES H. LEE

recalled as a witness by and on behalf of the plaintiffs, having been previously duly sworn, resumed the stand and testified further as follows:

The Court: You were sworn the other day?

The Witness: Yes, sir. [867]

* * * * *

Direct Examination

Q. (By Mr. Rowe): Mr. Lee, — to save time, these questions may be leading—have you been appointed, since testifying in August, consulting engineer for the Golden Gate Bridge, on engineering and geology involving some slides in Marin County?

A. Yes. [879]

* * * * *

Q. Now, you have made studies in transpiration, have you not? A. Yes.

Q. And that involved the evaporation, soils, grasses——

(Testimony of Charles H. Lee.)

Mr McPherson: Let the witness say what it consisted of, please.

Q. (By Mr. Rowe): All right, what does it consist of?

A. That involved the measurement of losses of water from growing plants of various types, such as grasses, trees and shrubbery.

Q. Just tell the court how you conducted that study to know exactly how much water a certain type of tree, soil, grasses, would lose by transpiration. [880]

* * * * *

The Witness: One experiment I conducted—I conducted numerous experiments—one was to determine the losses from meadow grasses and marshy grasses, by transpiration.

A tank was constructed, about 10 feet in diameter and 10 feet deep, placed in the ground so that the top edge of [881] the tank was just flush with the surface, and in the bottom of the tank was a layer of gravel some six inches in depth, with pipe and distributing so that water could be *led* in at the top and distributed throughout the gravel and work up through the soil.

Then above the gravel was placed soil to the surface——

The Court: Of the tank?

The Witness: Of the tank, and grass was planted on the soil, so the grass was of the same level of the grass surrounding it, and contiguous with it, no break. In other words, having continuous grass foli-

(Testimony of Charles H. Lee.)

age, both on the tank and around the tank and the adjacent meadow.

Then the quantities of water were fed into that as needed to maintain the level.

One tank was maintained a foot below the surface, another one two feet, another one three feet. I think there was a four-foot tank, four feet. And observations were made daily of the quantity of water required to keep the level to the same position, and the only escape of water from the tank was by way of the plants, the plant roots taking it up from the sandy water in the soil and carrying it up to the surface, and transpired it into the atmosphere.

These volumetric measurements were continued, I think, for one or two seasons; I know much longer than one season. If I recall correctly, it was two seasons of 12 months. [882]

The Court: What did you determine?

The Witness: Determined that the amount of water used by that meadow grass varied somewhat with the depth to the water. If I recall correctly, the greatest amount was for the depth of one foot, and lesser amounts were two and three feet.

The Court: The greatest loss of water was when the water was only one foot from the surface?

The Witness: From the surface, yes, your Honor.

The Court: In other words, the nearer the water was to the surface, the greater its loss?

The Witness: Yes. It was some 40 years ago that

(Testimony of Charles H. Lee.)

I conducted that experiment, and I haven't refreshed my memory of the exact results, but as I recall it the greatest losses were from the tank where the depth was one foot, and lesser for the two foot and three foot.

The Court: Did you maintain temperature readings of the atmosphere at the surface level of the grass during the experiments?

The Witness: There were no temperature readings made at this site, no. There were some adjacent, but not at the site.

The Court: Well, adjacent; near enough so that it would be approximately the same temperature as that where the grass was growing? [888]

The Witness: The air temperature, yes, sir.

The Court: The air temperature?

The Witness: Yes, sir.

The Court: And humidity?

The Witness: Yes, sir. There was a weather bureau station about two miles distant.

The Court: Did the transpiration vary with the humidity and temperature?

The Witness: It did. It varied from month to month as the temperature varied and the humidity varied, and the total for the year was in the neighborhood of, I think it was, three feet in depth.

The Court: You what?

The Witness: I say the total loss of water was in the neighborhood of three foot depth, that is, water equivalent to standing water three feet deep was

(Testimony of Charles H. Lee.)

lost from the vegetation during the course of the year.

The Court: During the whole 12 months, in a 10 by 10 tank?

The Witness: Yes.

The Court: Three feet of water?

The Witness: Yes. [884]

* * * * *

Q. You also made studies there on percolating water, did you not?

A. Yes, percolating water, the seepage losses from stream and circulation of subsurface water; the issuance of water in the form of springs, and seepage gain in streams. Where there was some streams that were losing and some were gaining, measurements were made of both.

The water table was mapped; the elevation, the ground water contour was determined for the area, for a considerable length of the Owens Valley.

The Court: And over a considerable period?

The Witness: Yes, over a period of three years, altogether three years, continuously during the three years.

Q. (By Mr. Rowe): Did you make studies in the Owens River Valley during the three years, of the area of the valley, for the [886] stream that comes out of the mountains?

A. Yes. There were numerous streams, 12 or 14 streams, coming out of the mountains, each one traversing its alluvial cone, and then there was a

(Testimony of Charles H. Lee.)

master stream in the valley itself which flowed lengthwise of the valley, the Owens River.

The Court: That came out where?

The Witness: At Owens Lake was the termination of that stream; and there was a portion of that where water was entering the stream as a seepage inflow. The streams supplying from the mountains were losing streams.

Q. (By Mr. Rowe): Did you make a study during that time, the three-year time, as to the exterior boundaries of alluvial cones of the rivers and streams of the Owens Valley? A. Yes.

The Court: The Owens Valley lies immediately to the west of—or east of the San Joaquin Valley, on the other side of the same range of mountains that bound the San Joaquin on the east?

The Witness: Yes. I also made similar studies in the San Joaquin Valley.

Q. (By Mr. Rowe): Is the water from the Owens River diverted out of the Owens River to non-riparian—— [887]

The Court: Come on——

Mr. Abercrombie: I object to that, incompetent, irrelevant and immaterial.

The Court: ——let's keep on the issue.

Q. (By Mr. Rowe): Have you made studies of the effect of diverting natural stream flow to other areas not in the same valley or watershed?

A. Yes.

Q. And you conducted those studies there?

A. Yes.

(Testimony of Charles H. Lee.)

Q. How long is the Owens River Valley?

A. About 80 miles. That is, the valley proper. There are other valleys that are above it.

Q. And how wide is it?

A. About 20 miles.

Q. And Los Angeles has diverted the water, has it not, to Los Angeles for domestic use?

A. A considerable portion, yes.

Q. Yes. And did you plan the location of the wells on the side that the Owens River, away from the river, could pick up any seepage from the Owens River?

A. A considerable number of them, the initial installations, yes.

Q. And you studied the effect of the river on the [888] underground supply? A. Yes. [889]

* * * * *

Q. (By Mr. Rowe): Mr. Lee, you wrote this paper of the United States Geological Survey?

A. Yes.

Q. And that is entitled, "An Intensive Study of the Water Resources of a Part of Owens Valley, California," and published by the United States Geological Survey in 1912?

A. That is correct. [895]

* * * * *

Q. (By Mr. Rowe): Are there any charts in this Plaintiffs' Exhibit for identification 59 showing the alluvial cones that you studied in the Owens River Valley?

(Testimony of Charles H. Lee.)

A. There are certain photographs, yes, and certain maps.

Q. Would you point those pages out, please?

A. Opposite page 12 it shows a series of cones in the vicinity of Independence, in the upper photograph on that page. Those skirt the Sierra Nevada Mountains on the east slope opposite the San Joaquin Valley, the east slope of the Sierra Nevada Mountains.

Mr. McPherson: May we see that, please?

(Exhibiting exhibit to counsel.) [896]

The Court: That says outwash slope, is that it?

The Witness: That is what it is termed there. They are composed of a series of cones, alluvial cones, or different streams that drain the east slope of the Sierras. [897]

* * * * *

Q. (By Mr. Rowe): Mr. Lee, is there a chart in here showing the alluvial cones of the various streams there named that you studied in the Owens River Valley?

A. There is a topographic map opposite page 76, which shows the alluvial slope from the base of the Sierras out into the valley trough, and which shows the series of cones.

Each stream is indicated on this topographic map as it traverses the slope, and the cone of each stream lies adjacent thereto, on either side, except in some cases where the stream has broken over and has its present course on the margin of the cone, which is lower.

(Testimony of Charles H. Lee.)

Q. And this map contains lines of equal ground water elevation that you studied?

A. It does, in the trough of the valley.

Q. Did you make that map?

A. Yes. The ground water contours and the coloring in the trough of the valley I prepared.

The Court: By "trough" you mean the bottom?

The Witness: Yes, your Honor.

The Court: All right.

Q. (By Mr. Rowe): You made studies at that time of the relation of the ground water contours of equal underground water elevations, did you not?

A. Yes.

Q. And their relation to stream percolation?

A. Yes.

* * * * *

Q. (By Mr. Rowe): Mr. Lee, is there any list or page showing the names of the streams and alluvial cones that you studied, in this bulletin? You showed it to me this morning, some 16, I believe.

A. Before answering that question, I wish to state that the map which you showed previously is a depth-to-water [899] contour map, not a true elevation contour map.

Mr. Rowe: Oh.

The Witness: There are different kinds of contour maps, and this is the depth to water.

The Court: Depth of the water from the surface?

The Witness: From the surface, yes.

In answer to your question, opposite page 36 there is a diagram entitled "Plate 9," which shows

(Testimony of Charles H. Lee.)

the relation of discharge of about 15 streams, in cubic feet per second, and seepage loss therefrom in cubic feet per second. The relation is shown graphically on this diagram for each stream.

The Court: That is the flow in cubic feet per second?

The Witness: Yes, your Honor. That is on the horizontal line of each of those little diagrams; and then the seepage loss is shown on the vertical line at the left-hand side of each of the little diagrams; and the line sloping upward indicates that the seepage increases with increasing flow of the stream.

Q. (By Mr. Rowe): Is that the percentage of seepage that increases with the increase in the flow of the stream, or just proportionate?

A. The diagram is in terms of cubic feet per second. The percentage—it would show percentage increases, but it differs in different streams.

The Court: Taboose Creek, length of channel 48 miles? [900]

The Witness: 4.8 miles, your Honor.

The Court: All right, 4.8 miles. It starts discharge in second-feet from zero up to 50 plus?

The Witness: Yes, up to 50 plus, in cubic feet per second.

The Court: Your vertical line is total loss in second-feet?

The Witness: Yes.

The Court: And the slanted lines A and B, above, correspond to what, rate of flow?

The Witness: Those slanting lines correspond

(Testimony of Charles H. Lee.)

to the—or rather indicate, for each discharge, the corresponding seepage loss.

For example, where the discharge in the stream is 10 cubic feet per second, it indicates that the—following up to the line B, it indicates that the seepage loss was 5 cubic feet per second. Following up from the "10" to the line and across,——

The Court: Yes, but you have A, B, and C. A and B above, and C below. What is A?

The Witness: A is the relation of the total loss to the discharge at the gauging stations; and B relates to the mouth of the canyon.

That is, the A line relates to the lower station, and the B line to the upper station. [901]

The Court: The B line at the mouth of the canyon, and A downstream?

The Witness: Downstream station, yes.

The Court: Now, what is C?

The Witness: Loss per mile from the mouth of the canyon. That shows the loss per mile. And for the corresponding 10 second-feet of discharge, the loss per mile was one second-foot. But for 20 second-feet, after 20 second-feet, it was 2 second-feet. In other words, the loss per mile increases as the discharge increases; the greater discharge, the greater percentage of loss.

The Court: The greater the percolation?

The Witness: Yes, your Honor.

Q. (By Mr. Rowe): And, Mr. Lee, your studies there were of some 16 streams, determining the amount of percolation in relation to cubic feet sec-

(Testimony of Charles H. Lee.)

ond-feet discharge of the particular streams?

A. Yes.

Q. And did you make studies of the direction that the water seeped from these various streams?

A. Studies were made in the trough of the valley, but not on the steep slopes. The depth to water varied, and it was a considerable distance from the surface on the steep slopes. The rise there is some 3,000 feet from the [902] trough of the valley to the top, and the apex of the cone, and the studies were confined to the lower part of the valley. [903]

Q. Did you make geological studies of the extent of the exterior boundaries of the cones of these 16 streams?

A. Yes, in so far as the surface indications permitted.

I also, in the lower portion of the cones, made studies from well logs and from the behavior of the water table and the pressure surface.

Q. And is there a dam on the upper Owens River in the Owens River Valley?

A. There is now. It has been built in recent years.

Q. Have you ever made any studies of the effect of that dam on percolation? A. No.

Q. But your studies did include——

Mr. McPherson: Just a minute. Let the witness state what his studies included.

Q. (By Mr. Rowe): Were your studies in regard to the alluvial cones of these various streams

(Testimony of Charles H. Lee.)

or studies made to determine the exterior boundaries of these cones?

A. In some instances there were, yes.

Q. And did you make studies on the Owens River proper of seepage losses?

A. Yes. There were some short sections where seepage losses occurred in the Owens River, but in general it was found to be a seepage gain in the river, the river being the [904] main drainage line of the valley.

The Court: By "seepage gain" you mean that the water flowed into the river from the adjacent land?

The Witness: That is right, yes. The water table was higher than the river due to various causes and the flow was from the land adjacent to the river into the river, that is, on the west side of the river.

The Court: The west side?

The Witness: The west side.

The Court: Is that the side near the mountains?

The Witness: Yes, in the Independence region. Well, that is the side nearer the Sierra Nevada Mountains. The White Mountains are on the eastern side of the valley, and where there is irrigation there was a gain from the east side also, but where there was no irrigation the water level was about the same as in the river. The river didn't gain from that side.

The Court: Is the Owens River nearer the Sierra Nevadas than the White Mountains? In other

(Testimony of Charles H. Lee.)

words, the influence on the river comes from the steep slope of the Sierra Nevadas or does it come from the steep slope of the White Mountains?

The Witness: It came from the steep slope of the Sierra Nevadas.

The Court: How far is the Owens River, in that section, from the base of the White Mountains?

The Witness: About three miles.

The Court: How far from the Sierras, from the same contour?

The Witness: About six miles.

The Court: Then it was nearer the White Mountains than the Sierra Nevadas?

The Witness: Yes, sir.

Q. (By Mr. Rowe): So that in this study you made studies of percolation into the river as well as away from the river? A. Yes.

Q. And the amount of such percolation?

A. Yes.

Q. Did you evolve methods of determining the amount of seepage into the stream and method of determining the amount of seepage away from the stream?

A. I used methods which were standard in the profession at that time.

Q. Now is there a chart on this bulletin which shows the relation between gravel deposits and clay in the cross-section of the Owens River Valley? You showed it to me this morning.

A. Yes, there are well logs shown graphically and there is a schematic diagram.

(Testimony of Charles H. Lee.)

Q. Have you the schematic diagram there? [906]

A. There is a schematic diagram opposite page 74.

The Court: Do you want to show it to counsel?

(Exhibiting picture to counsel.)

Q. (By Mr. Rowe): And that study was a geological study of the——

Mr. McPherson: Counsel, why don't you let the witness say what the study was, please?

Q. (By Mr. Rowe): Was that geological engineering?

Mr. McPherson: Same objection. Counsel persists in leading the witness.

Q. (By Mr. Rowe): What is that study?

A. The title is on it.

Mr. Abercrombie: That is no help to me, your Honor.

Mr. Rowe: It says "Cross-Sections of Owens Valley Showing Geological Relations."

The Witness: That is correct.

Q. (By Mr. Rowe): Was or was not that study then a geological study?

A. It was a geological study.

Mr. McPherson: Based on the assumed position of the bedrock.

The Court: Are you leading the witness?

Mr. McPherson: Well, that is part of the indication on [907] the map, your Honor, that he said indicated what it was. I simply was completing the legend.

Q. (By Mr. Rowe): Mr. Lee, how many years

(Testimony of Charles H. Lee.)

did you devote to this study of the geology of percolating waters of the Owens River Valley?

A. At that time three years. Subsequently I have spent a number of additional years.

Q. And you were working then for whom?

A. For the City of Los Angeles.

Q. And did you make studies of the evaporation of the stream surfaces? A. Yes.

Q. And did you find that they corresponded with the evaporation in these Government pans at their rain measuring stations?

A. At that time the Government Weather Bureau had not established pans. These pans were some that were established for this particular study and there were no Government pans to make a comparison with.

Q. In your opinion, is a pan like the Government pan at Friant, is that a proper indication of the evaporation, the evaporation of that pan, of the evaporation of the river surface?

A. No, it represents only the evaporation from the [908] pan. But it can be related by some comparative studies which have been made in different localities so that engineers have agreed upon certain factors which can be applied to the weather bureau evaporating pans to determine evaporation from large open water surfaces.

The Court: Including flowing streams?

The Witness: Yes. There have been some figures on flowing streams too.

The Court: What I am getting at is, he talks

(Testimony of Charles H. Lee.)

about the Government pan at Friant. You said something about a formula or something to relate the evaporation in the pan to large bodies of water. Is that large bodies of standing water or flowing water?

The Witness: The coefficient I refer to is for large bodies of standing water.

The Court: Has there been any agreed standard to relate the evaporation in the still pan to flowing streams?

The Witness: No agreed standard that I know of. There has been some work done on that and it indicates that the evaporation from a flowing stream is a little larger than from standing water, particularly where there are ripples and breaking of the surface.

Q. (By Mr. Rowe): Mr. Lee, did you make any independent studies of the evaporation from water surface as compared to the evaporation [909] at the Government pans at their weather stations?

A. I have in recent years since the Government pans were installed.

The Court: Let me hear that question again.

(The question referred to was read by the reporter as follows:

("Q. Mr. Lee, did you make any independent studies of the evaporation from water surface as compared to the evaporation at the Government pans at their weather stations?")

The Court: What Government pans and what weather stations?

(Testimony of Charles H. Lee.)

Q. (By Mr. Rowe): In the Owens River Valley? A. No.

Q. In this particular study?

A. No. I do not know of any Government pan in the Owens Valley. The study I made was in other localities of that character.

Q. Did you make studies of evaporation from water surfaces in the Owens River Valley?

A. Yes.

Q. And are those included in this paper?

A. They are.

The Court: What is the smallest unit of water? How do [910] you describe it, a molecule?

The Witness: I presume a molecule.

The Court: When water flows does the molecule roll over and over like a marble rolling along in the flow, or does it roll straight like a puck, or does it slide?

The Witness: It depends on the condition of the channel. If the channel is broken at the bottom so that there is what we call turbulence then the molecule would roll over and over.

The Court: Regardless of the depth of the stream?

The Witness: Regardless of the depth of the stream.

The Court: And as it rolls does it increase evaporation?

The Witness: If it breaks on the surface it does, where the molecule breaks from the surface it would increase the evaporation. If, however, it rolls over

(Testimony of Charles H. Lee.)

within the stream itself it does not increase evaporation.

Q. (By Mr. Rowe): Mr. Lee, did you make evaporation studies from pans on the ground in the Owens River Valley? A. Yes.

Q. And make a comparison between the rate of evaporation from a pan on the ground and one on the water? A. Yes.

The Court: On what water?

Q. (By Mr. Rowe): On what water? [911]

A. The Owens River.

The Court: That is a pan in the river?

The Witness: A pan in the river and a pan on the ground.

The Court: Out of the river?

The Witness: Out of the river.

Q. (By Mr. Rowe): Now, Mr. Lee, did you ever make studies of the alluvial cones of any rivers and streams in the San Joaquin Valley?

A. Yes.

Q. And if so, for whom?

A. The Federal Land Bank of Berkeley and the Glenn-Colusa Irrigation District, the East Bay Municipal Water District——

Q. Utility District, I believe.

A. East Bay Utility District.

Q. What river cone did you investigate for the East Bay Municipal Utility District?

A. The Mokelumne River.

Q. What was your position? For whom did you work?

(Testimony of Charles H. Lee.)

A. I was employed as consultant by the District.

Q. And did you determine in that case the exterior boundaries of the alluvial cone or fan of the Mokelumne River? [912]

A. In a general way. My particular studies on that stream related to the water table and to the replenishment from various sources. The geological work on that stream was conducted by others.

Q. Did you make any study of percolation from the Mokelumne River and the effect of any upstream dams on the percolation?

A. I made some studies, yes.

Q. And did they build a dam on the Mokelumne River? A. Yes, the District built one. [913]

* * * * *

Q. (By Mr. Rowe): From your employment with the East Bay Municipal Utility District, do you know whether the installation of the dam on the Mokelumne River affected the percolation of water in the alluvial cone of the Mokelumne River?

* * * * *

The Court: I think you better have a little more foundation. Where was the dam built?

Q. (By Mr. Rowe): Where was the dam, Mr. Lee, on the Mokelumne River?

A. It was at the mouth of the canyon, at the upper edge of the valley.

Q. Was it comparable to the location of the Friant Dam? A. Yes. [915]

* * * * *

(Testimony of Charles H. Lee.)

Q. (By Mr. Rowe): Do you know where the city of Lodi is located? A. Yes.

Q. That is approximately half way between the city of Stockton and Sacramento?

A. Oh, roughly. I wouldn't say it is half way. It is between Sacramento and Stockton, and I think possibly about half way.

Q. Is the city of Lodi located on the alluvial cone of the Mokelumne River, or fan of the Mokelumne River?

A. Yes, the alluvial cone or fan of the Mokelumne River. [918]

* * * * *

The Witness: Pardee Dam is at the mouth of the canyon of the Mokelumne River, where it leaves the mountains and discharges out onto the plains of the valley.

The Court: All right. Now, what was your previous question?

Mr. Rowe: One other question, then I will get to it.

Q. Where is Pardee Dam, in relation to the beginning of the cone of the Mokelumne River?

A. Just at or above the head of the cone.

Q. And where is Friant Dam, as related to the beginning or head of the cone of the San Joaquin River? [919]

Mr. McPherson: We object——

Mr. Goldberg: Objection.

Mr. McPherson: ——on the ground there has

(Testimony of Charles H. Lee.)

been no showing there is a cone on the San Joaquin River.

The Court: Overruled.

The Witness: At or—about the head of the cone of the San Joaquin River.

Q. (By Mr. Rowe): What happened to the wells of the City of Lodi when they installed Pardee Dam? [920]

* * * * *

Q. (By Mr. Rowe): Mr. Lee, were you ever hired as consulting engineer for the City of San Francisco? A. Yes.

Q. And where does the City of San Francisco get its water supply?

A. From Hetchy-Hetchy reservoir on the Tuolumne River.

Q. And where is the Hetchy-Hetchy reservoir located with regard to the Tuolumne River?

A. It is on the river in the mountains, Sierra Nevada Mountains.

Q. Above the alluvial cone?

A. No, it is well back into the mountains.

Q. It is? A. Yes.

Q. And did you make any study of alluvial cones of rivers in the San Joaquin Valley for the Federal Land Bank? A. Yes.

Q. And what rivers did you make studies of the alluvial cone?

A. Kings River, Kaweah River, Tule River, Poso Creek, Kern River and various smaller streams between those named.

(Testimony of Charles H. Lee.)

Q. Did your studies——

The Court: In other words, beginning at the Kings [922] River south to and including the Kern?

The Witness: Yes, your Honor, every stream cone.

The Court: Every stream cone in there?

The Witness: Yes.

Q. (By Mr. Rowe): And did those studies include a determination of the exterior boundaries of the alluvial cones of those rivers?

A. They did.

Q. What else did they include, relating your answer to percolating waters, stream flow, and so forth?

A. They included a study of the sources of water for each of those cones, a finding as to what the sources were and how much, and an equating of the amount of water entering the cones and the amount extracted from those cones to determine whether or not the supply was being overdrawn from each of those cones by pumping.

Q. And did it determine the extent of the percolating water through these cones?

A. Yes.

Q. How long did that study take?

A. That ran over at least six months, or maybe a little longer.

Mr. McPherson: When?

Q. (By Mr. Rowe): When, what year? [923]

A. I think it was in the middle '30s. I may have some notation here. (Examining notes) 1932.

(Testimony of Charles H. Lee.)

Q. Did that include studies of the types of underground soil that percolating waters would flow or would not flow through?

A. Yes, both the soils and the subsurface formations, thinking of soils there as the top material.

Q. And did it include the determination——

The Court: Soils as the alluvial deposits?

The Witness: Soil as alluvial deposits but those which are used agriculturally. The term "soil" in recent years by engineers has gotten to be applied to formations below the surface where foundations are involved, but in speaking of soils there I was using the word as soils which are agriculturally used for raising crops, and then the formations below would be the subsurface materials.

Mr. Goldberg: Your use of the word "soils" is not confined to alluvial deposits, however, it is any surface used for agriculture?

The Court: Not in this case.

Mr. McPherson: I am confused now. Did your study include the subsurface as well as the surface soils?

The Witness: Yes.

Q. (By Mr. Rowe): And did it—— [924]

Mr. Goldberg: Just a minute, Mr. Rowe.

By your use——

The Witness: In answer to your question, Mr. Goldberg, the question, as I understood it, referred to the alluvial cones, the soils on the alluvial cones,

(Testimony of Charles H. Lee.)

and the alluvial cones are alluvial deposits, therefore the soils were alluvial deposits.

The Court: And you studied those as well as the ground underneath them?

The Witness: That is right.

Q. (By Mr. Rowe): And did you study the effect of the stream flow in these various rivers on the percolating waters in these various alluvial cones?

A. Yes, to the extent necessary to make the study of inflow and outflow.

Q. Have you ever made studies in reverse, like studies of what soils can block the flow of water?

A. Yes. You mean the finer texture soils, such as clays—yes.

Q. Have you made soil and geological studies of the type of soil best for earth dams?

A. Yes, I have made frequently studies to determine the value of certain soils in construction operations such as dams where a water type structure is required in levees, earth fills [925] and other earth structures.

Q. In 1939 did you write an article on soils as regards earth-filled dams? A. Yes.

Q. You won the gold medal, the highest award of the American Society of Civil Engineers in 1939 for such an article, did you? A. Yes.

Mr. Goldberg: Could we have the place where the article is published, Mr. Rowe?

Q. (By Mr. Rowe): Would you give the name of the article?

(Testimony of Charles H. Lee.)

A. The name of the article, which was known as a paper, "Selection of Materials for Rolled Filled Earth Dams," in the Proceedings of the American Society of Civil Engineers, September 1936, reprinted with discussion transactions of the American Society of Civil Engineers in 1938.

Q. And what is the name of this medal?

A. The Norman Medal.

Mr. Rowe: I think associate engineers will stipulate that that is the highest medal awarded.

Q. Mr. Lee, you also made studies, for example, at the last World's Fair, Treasure Island, did you not? A. Yes.

Q. On how to stop the flow of water? [926]

A. Yes.

Q. And they had lagoons throughout Treasure Island, did they not?

A. There was one lagoon, about 7½ acres in extent, in which the bottom, for purposes of making it impervious, was constructed of clay. I made the selection of the clay but did not have control of it being placed and in the placing of the clay to form an impervious bottom for the lagoon, it was not properly rolled or compacted so that when the water was turned into the lagoon it leaked very badly and it was then my responsibility to stop the leakage. This was accomplished by pumping salt water into the lagoon, that is, draining out the fresh water and pumping in salt water. The salt water caused a deflocculation of the clay particles so that a jell was formed surrounding the particles and rendering the

(Testimony of Charles H. Lee.)

lining impervious to water. After refilling with fresh water the leakage had been reduced 50 per cent.

Then with the passage of the first storm with a low barometer the air still remaining in the clay escaped, and then after that storm the leakage was reduced to a nominal amount, and at the second storm to zero. [927]

* * * * *

Q. In other words, you have studied what clays are impervious to water, and under what conditions? A. Yes.

Q. Now, you have written various articles, have you not, Mr. Lee? A. Yes.

Q. You maintain a rock and soil testing—or what laboratory do you maintain at your office?

A. I have a rock and soil testing laboratory in connection with my office.

The Court: At San Francisco?

The Witness: In San Francisco, yes. Tests are made for the characteristics of the various soils and subsurface formations, the size of the granular components, and the strength in sharing and in compression, and the amount of consolidation which soils will undergo when they are loaded.

The Court: Loaded?

The Witness: Loaded, yes, with a building or a bridge pier.

The Court: Oh.

The Witness: There are various other tests which are made as a routine, and——

(Testimony of Charles H. Lee.)

The Court: For imperviousness or perviousness?

The Witness: Yes. We have three or four methods of determining permeability of soils. Tests are made for [929] permeability.

The Court: To water, or other materials?

The Witness: Permeability to water.

I have made some tests of permeability to air, but not extensively.

The Court: Oil?

The Witness: No. Oil is one of our difficulties, rather than—we try to stay clear of oil, because it hinders the travel of water.

The Court: I mean you have studied that?

The Witness: No, not except to get rid of it.

The Court: Well, have you studied its influence on the permeability of soil?

The Witness: Yes. We find it tends to render the soil impermeable; but I have not studied the permeability of natural oil-bearing formations. Petroleum, in other words; I have not studied the petroleum-bearing capacity of soils.

Q. (By Mr. Rowe): Mr. Lee, outside of hydrology, do you have any other specialty in your office, would you say and, if so, what is it?

A. Foundation exploration, slide exploration, and remedying municipal water supplies, municipal sewage works.

Q. I was just directing your attention to foundations; you do study proper foundations, do you not? [930]

A. Yes. I have two men who do nothing else.

(Testimony of Charles H. Lee.)

One is a geologist, and the other a trained soil man and engineer, and we have, at the present time, eight or 10 foundation studies in progress, and they are coming in at the rate of two or three a day. If this case lasts much longer, I will have to give up that line of work.

The State of California and employment office at San Francisco is one of the sites we made a foundation survey for; and the Navy at Del Monte, for research and graduate work there for Annapolis; and several churches in San Jose, some buildings in Stockton, probably 10 or 12 buildings in San Francisco—the Mt. Sinai Hospital, Children's Hospital, Moimonedee Health Center, and the grain elevator at the Port of San Francisco.

Q. I think that is enough. I just wanted to qualify you on foundations and dams on the San Joaquin River.

I might also state that "Treasure Island" was purely my idea, not Mr. Lee's.

Mr. Lee, you have written various articles, have you not? A. Yes.

Q. Would you give us the names of a few of those that apply somewhat to the situation here in this case?

A. These are papers and published articles and reports that cover the subject of evaporation and [931] transpiration, seepage gain and loss from streams and lakes, interpretation of water level in wells, ground water hydrology and geology.

One of the first was entitled "The Possibility of

(Testimony of Charles H. Lee.)

the Permanent Reclamation of Tulare Lake Basin, California Engineering News Record, January 10, 1907."

Q. That is the end of the south fork that Mr. Abercrombie was talking about in the Kings River yesterday? A. Yes.

"The Measurement of Soil Evaporation in Arid Regions. Engineering News Record, October 12, 1911."

"Subterranean Storage of Flood Water by Artificial Methods in San Bernardino Valley, California. Report California Conservation Commission, 1912."

"The Determination of Safe Yield of Underground Reservoirs of the Closed-Basin Type. Transactions American Society of Civil Engineers, 191[illegible]."

"Geology and Ground-waters of the Western Part of San Diego, California, Water Supply Paper, 446, United States Geology Survey, 1919."

The Court: San Diego?

The Witness: Yes.

"Evaporation Loss from Water Surfaces and Moist Soils, with Special Reference to Conditions in Western America. Monthly Weather Review, U. S. Weather Bureau, 1924." [932]

"Water Consumption for Various Purposes in Terms of Depth and Area. Journal of American Water Works Association, February 1927."

"Maximum Flood Discharge in San Joaquin Valley, California. Discussion in Transactions American Society of Civil Engineers, 1929."

(Testimony of Charles H. Lee.)

"Consumptive Use of Water in Irrigation. Discussion in Transactions American Society of Civil Engineers, 1930."

"Evaporation and Transpiration with Special Reference to Salt Water Barrier Below Confluence of Sacramento and San Joaquin Rivers. Appendix C, Bulletin No. 28, Division of Water Resources, State of California, 1931."

"The Interpretation of Water Levels in Wells and Test Holes, National Research Council, Transactions American Geophysical Union, Section of Hydrology, 1934, Part II."

"Evaporation from Large Water Surfaces based on Records in California and Nevada. Discussion, National Research Council, Transactions American Geophysical Union, 1935."

"Classification and Definitions of Subsurface Water. Bulletin No. 24, International Union of Geodesy and Geophysics, International Association of Scientific Hydrology, Washington, D. C., 1939."

"Total evaporation for Sierra Nevada Watersheds by the Method of Precipitation and Runoff Differences. National Research Council, Transactions American Geophysical Union, [933] Section of Hydrology, 1941."

"Transpiration and Total Evaporation, Chapter VIII, of Hydrology, (72 pages), edited by Oscar E. Meinzer in 1942."

The Court: Published by whom?

The Witness: By the McGraw-Hill Publishing Company; but it was part of a series issued by the

(Testimony of Charles H. Lee.)

National Research Council on the Physics of the Earth, and Section IX of that series was the Division of Physical Sciences, and one of those was hydrology, and that was the one which I participated in.

Those are some of them.

Q. (By Mr. Rowe): And as I understood it, you made studies of the percolating water losses in several streams in Southern California, in storage reservoirs, and, if so, what streams?

A. Santa Ana River in San Bernardino Valley; San Diego River, San Luis Rey River—the latter two are in San Diego County.

Q. And for whom——

The Court: The Los Angeles River, San Fernando Valley?

The Witness: No, your Honor.

The Court: Go ahead. [934]

Q. (By Mr. Rowe): And for whom?

A. The study on the Santa Ana was made for the City of Riverside.

The Court: Go ahead.

The Court: The study on the San Diego was made for the City of San Diego. Tijuana Valley, on the Tijuana River was made for the Tijuana Valley Water Conservation District.

On San Luis Rey, the study was made for the Vulcan Land and Water Company. [935]

Q. (By Mr. Rowe): And what did those studies include?

A. They included the determination of the limits

(Testimony of Charles H. Lee.)

of the alluvial cones which were involved, or alluvial deposits, the stream flow entering the alluvial areas or the cones, the absorption of water from the streams, absorption of water from rainfall upon the surface, the escape of water from the cones in the various forms as rising stream flow or springs or marsh areas, the pumping from the alluvial cones, transpiration from vegetation, natural vegetation, and from irrigated crops where the stream flow was used in irrigation, the extraction of water from wells and in all cases the study of the geology of the formations.

Q. Mr. Lee, I notice by the transcript you did not complete two sections of stating your experience that I started to present in evidence at the hearing on the temporary injunction. Would you complete giving those qualifications?

* * * * *

The Witness: Well, the first section had to do with experience involving relation of reservoirs to stream flow and [936] the irrigation diversions. The following are instances of such experience:

The Long Valley reservoir on Owens River, Mono and Inyo County, California, storage regulation for local irrigation ditches and surplus to City of Los Angeles;

Henshaw reservoir on San Luis Rey River, San Diego, California, the effect of storage diversion upon pumped wells in the San Luis Rey Valley;

Calaveras reservoir on Alameda Creek, study of

(Testimony of Charles H. Lee.)

storage releases to maintain supply of pumped wells on Niles Cone.

Q. (By Mr. Rowe): That is in Santa Clara Valley, is it not?

A. It is on the edge of Santa Clara Valley. It is between Oakland and San Jose on the east side of San Francisco Bay.

Lake Almanor on the Feather River, determination of losses by evaporation in storage reservoir upon supply of Sutter Butte Canal Company.

Rodrigues reservoir on Tijuana River in Mexico, the effect on pumping from wells in Tijuana Valley, California.

Hetch-Hetchy reservoir on Tuolumne River, study of storage releases to maintain supply in irrigation ditches of Modesto and Gerlach Irrigation Districts, and availability of surplus for diversion.

Snow Mountain reservoir on the Eel River, study of [937] effect of storage diversion upon subirrigation in lower Eel River Valley.

Lake Meade and Lake Havasu on the Colorado River, study of effect of release of clear water on cutting and filling of river bed between Hoover Dam and Parker Dam.

Roosevelt Irrigation District, Buckeye, Arizona, extensive study and report of ground water conditions, pumping from wells, river flow and relation to storage regulation at Roosevelt Dam in Salt River Valley near Phoenix, Arizona; filed work done in cooperation with Salt River Valley Water Users Association.

(Testimony of Charles H. Lee.)

Nogal reservoir on Rio Bonito, Lincoln County, New Mexico, study of effect of change of point of diversion of the 46 irrigation ditches to upstream diversion point upon regimen of stream and ditch and pump diversions by the United States at Fort Stanton, New Mexico.

Q. Who were you working for on that one?

A. The United States Treasury Department and the Public Health Service.

Then passing on to the next heading which you mentioned, the general experience in the San Joaquin Valley.

In 1905 to 1906, stream gaging on the Tule River, Merced River, Kings River, Kaweah River and Tulare Lake. That was in employ of the United States Geological Survey.

In 1917, Lindsay-Strathmore Irrigation District [938] investigation and effect of pumping from wells on the flow of the Kaweah River. This engagement was terminated in its early stages by my being ordered into the service, United States Army.

1920-21, supervision of the establishment of a water-master service on Kings River, and also passing upon applications to appropriate water from San Joaquin Valley streams as Chief of the Division of Water Rights of the State of California.

In 1932 the Federal Land Bank Report which has already been referred to.

In 1950, investigation and report on Los Banos Creek flood in the Delta-Mendota Canal.

(Testimony of Charles H. Lee.)

Q. That was a washout in the Delta-Mendota Canal? A. Yes.

Q. You have also been president, I believe, of the California State Water Authority, have you not? A. State Water Commission.

Q. State Water Commission? A. Yes.

Q. I brought out that you were consulting engineer for the Golden Gate Bridge? A. Yes.

Q. In the last five months have you been making a study of any other cone? [939]

A. Yes, the cones of Lytle Creek, Waterman Canyon, Strawberry Creek, Plunge Creek, Sata Creek, Mill Creek, San Timoteo Creek, and Santa Ana River in the San Bernardino Valley, California.

Q. I was directing my question to——

The Court: What about the San Joaquin River?

Mr. Rowe: Yes.

Q. Did you make a study in the past few months of the alluvial fan or cone of the San Joaquin River? A. Yes.

Q. And the extent of that cone?

A. Yes. I have since August 29th made numerous field inspections along the San Joaquin River between Friant Dam and Mendota Pool and noted conditions along the river and in the channel thereof and in the bottom lands, and have supervised the taking of observations of water levels in various wells and have made particular study of conditions along the river with reference to establishing check dams.

(Testimony of Charles H. Lee.)

I have also examined a number of the weirs on Kings River, on the cone of the Kings River.

I have attended——

The Court: Artificial weirs or natural weirs?

The Witness: Those weirs are artificial weirs made for the purpose of controlling water for diversion.

Mr. Abercrombie: When did these studies start? Was [940] that in August, August 29, 1951, you say?

The Witness: No, they were carried on prior to that date, but I understood the question to be in the last six months, and that was the date of the preliminary trial and I did not understand the question to go back of that date.

The Court: How long have you been studying the San Joaquin River?

The Witness: I think it was early July of 1951 in connection with this case.

The Court: Had you studied it before in connection with your general hydrological studies?

The Witness: Not except as noted in the various instances I have already referred to.

Since August 29th fully half of my time, probably more than half of my time, has been devoted to the study of the conditions on the San Joaquin River below Friant and the study of the alluvial cone geology, or fan as it might well be termed, supervision of water level observations in wells, drawn water contour studies, seepage losses, physical solu-

(Testimony of Charles H. Lee.)

tion and irrigation conditions in the adjacent irrigation districts.

These studies have included not alone the analysis of available data already in report form, but new data that is being gathered during that period and included study of reports on the geology, hydrology and hydrography, ground [941] water, irrigation practice, and so forth, in the locality.

Mr. Abercrombie: Now might I ask at this point whether the data the witness refers to has been made available to our engineers?

Mr. Rowe: Starting right now with what he has been testifying to.

The Court: I was under the impression that at the pretrial conference in Los Angeles I had directed counsel on both sides to make available to the engineers of the other side whatever data they had upon which they were basing any conclusions or expected to.

Mr. Abercrombie: That is why I asked the question, your Honor.

The Court: Has that been made available?

Mr. Rowe: As fast as it has been obtained. It has been available, what we have.

Q. Since then you have been working preparing graphs, have you not, Mr. Lee, to explain data that you have gathered? I mean take like Mr. Segel's summary of the logs, the first I saw of it was yesterday myself. They have been working on it for two or three months. [942]

(Testimony of Charles H. Lee.)

The Court: Well, apparently the data has not been made available to the engineers.

Mr. Rowe: Well, they have been told they could have it, whatever Mr. Lee has.

The Court: Yes, I recall you made a statement that whatever Mr. Lee had would be available to any engineer who chose to call on him for it, at the last session in Los Angeles on the pretrial.

Mr. Rowe: A lot of it has been taken from the records of the Bureau of Reclamation and the State of California.

The Court: All right.

Mr. Abercrombie: Might I ask where we have to go to get it, your Honor, and what does it consist of, any new data that isn't published, I mean.

The Court: I suppose we are coming to the point now of stating what data he has. I mean, he has described it generally.

Mr. Abercrombie: We haven't had any. That is why I am asking the question.

Mr. Rowe: Well, as I say, one of the big ones was the well logs, which were not completed until night before last at midnight. They got it as soon as I got it.

The Court: That is the reason you were stalling three or four days?

Mr. McPherson: That is a material observation.

Mr. Rowe: There is more truth than poetry in that, your Honor.

The Court: In any event, let's get on with the testimony.

(Testimony of Charles H. Lee.)

I indicated to counsel the other evening, at the conclusion of the expert testimony put on by the plaintiff in this case, if defendants' counsel desired, they could have a recess in order for their engineers to go over the testimony and data.

Mr. Rowe: Is Exhibit 1-52-1 available, of the pretrial conference?

The Court: Here is 1-52-1. It is now Exhibit 1 in this case, isn't it? Didn't we re-mark it as Exhibit 1?

The Clerk: Yes, that is Exhibit 1.

Mr. Rowe: Yes, Exhibit 1.

Q. Mr. Lee, showing you Exhibit 1-52-1—I mean Exhibit 1, and also for purposes of identification Exhibit No. 1——

The Court: And 30?

Mr. Rowe: And 30. May I ask if this was introduced in evidence? If not, I ask that it be introduced.

The Court: It is admitted.

(The exhibit referred to was received in evidence as Plaintiffs' Exhibit No. 30.)

The Court: Draw a line through the "Id." [944]

Mr. McPherson: Are you going to furnish us a copy of that exhibit, counsel?

Mr. Rowe: That is one exhibit we only have the one copy of.

The Court: How many sheets are there of it?

Mr. McPherson: 20, I think you counted, the other day.

Q. (By Mr. Rowe): Showing you Plaintiffs' Ex-

(Testimony of Charles H. Lee.)

hibit 30 in this case and Plaintiffs' Exhibit for identification No. 1, would you tell what the legal description represents?

A. Exhibit No. 1 is entitled "Legal Description, Topographic Boundary of Alluvial Cone."

Mr. Abercrombie: We move to strike that answer, if the court please, on the ground no proper foundation has been laid for this witness' opinion as to what the alluvial cone is. We would like to have the investigation he made, and have his foundational data before he testifies on that subject.

Mr. Child: We join in that objection.

The Court: Overruled.

Mr. Abercrombie: Do I understand the alluvial cone is now in evidence, on expert testimony, or are we just relying on the map?

The Court: All that is in evidence is that he says that [945] is what it says on the top of the paper.

Q. (By Mr. Rowe): Is Plaintiffs' Exhibit for identification No. 1, the legal description, shown on the red dotted line on Plaintiffs' Exhibit 30?

A. It is.

Mr. Rowe: I would like to offer that legal description in evidence.

The Court: Admitted.

(The exhibit referred to was received in evidence as Plaintiffs' Exhibit No. 1.)

Mr. McPherson: We do not, by not objecting to its improper form, conceive the existence of the cone.

(Testimony of Charles H. Lee.)

The Court: I understand.

Q. (By Mr. Rowe): Now, how did you determine the dotted line on Plaintiffs' Exhibit 30?

A. I determined it by following the sections lines, half sections and quarter section lines, to conventionalize——

Mr. Rowe: May I withdraw that question just a minute, please.

Q. I show you Exhibit K, Mr. Lee. Has this been introduced in evidence?

The Court: It is in evidence.

Mr. Rowe: As K? [946]

The Court: As K.

Q. (By Mr. Rowe): Are you familiar with the outlines on Exhibit K?

A. I am familiar with them, but I have not checked them.

The Court: Assuming, Mr. Lee, that the solid and unshaded red line, lying northerly and southerly of what is indicated to be the San Joaquin River between Friant and the approximate vicinity of Mendota Pool, on this map, corresponds with the lines that you have drawn upon Exhibit 30, would you state that that, in your opinion, is the northerly and southerly boundaries of the alluvial cone of the San Joaquin River?

Mr. Abercrombie: Object to the court's question, on the ground no proper foundation is laid of the investigation of conditions underground that would determine the nature of the formation, or this witness' competency to testify in that regard.

(Testimony of Charles H. Lee.)

Mr. McPherson: On the further ground that it has no probative value on this issue.

The Court: Overruled.

The Witness: The alluvial cone or fan.

Mr. McPherson: Move to strike it on the ground it is not responsive to the court's question, to which we objected. [947]

The Court: Motion denied.

Mr. McPherson: What distinction is there between fan and cone, in the present adaptation of geology in this case?

The Court: I think the witness explained that. He has used the word interchangeably.

Motion denied. Objection overruled. The answer may stand.

Q. (By Mr. Rowe): Mr. Lee, on Exhibit K, do the exterior boundaries of Mr. Smith's description and the exterior boundaries of what you have designated as the alluvial cone——

Mr. Child: To which we object. We don't know what Mr. Smith's description is.

The Court: Sustained.

Q. (By Mr. Rowe): Mr. Lee, I am attempting to give the court and counsel just a legal description of the exterior boundaries of the combined areas of the exhibits put in by Mr. Smith and Mr. Lee.

Mr. Green: Objected to on the ground there is no exhibit put in by Professor Smith.

The Court: The combined area?

Mr. Rowe: Exhibit C of the amended complaint of July 15, 1951, testified to by Professor Smith,——

The Court: It is not in evidence in this case.

(Testimony of Charles H. Lee.)

Mr. Rowe: I will have to call Professor Smith.

The Court: He testified at the preliminary hearing, and that evidence is not in evidence in this case; but it is agreed to, by all counsel, that such evidence as anybody wished to introduce in this case, they may offer it, if it has not been offered previously.

Q. (By Mr. Rowe): Mr. Lee, will you state to the court how you determined the boundaries of what you term the alluvial cone, as shown on Plaintiffs' Exhibit 30?

A. Yes. This boundary, of which the legal description is conventionalized from following section lines, was determined in a number of ways.

As shown upon the map, Exhibit 30, it was determined largely by topography, by the location of the sag,——

The Court: Of the what?

The Witness: The sag, or low area between the Dry Creek and San Joaquin River areas.

There is a line in the topography of low ground lying between those streams and the line on Exhibit —the wavy line, meandering line on Exhibit 30 follows that sag.

I have found in my experience——

The Court: "Dry Creek"?

The Witness: Yes, Dry Creek, your Honor, is the first stream to the south of the Kings River.

The Court: Kings River?

The Witness: San Joaquin, rather.

Mr. Abercrombie: There is a "Dry Creek" and

(Testimony of Charles H. Lee.)

"Little Dry Creek," and I think that is what has confused your Honor.

The Court: Little Dry Creek is a tributary to the San Joaquin above Cobb Island?

The Witness: Yes. But there is a Dry Creek not a tributary to the San Joaquin that runs to the south.

Q. (By Mr. Rowe): Runs through the City of Fresno? A. Yes.

Mr. McPherson: The meandering line you refer to, drawn in red, is also about the texture and width of the dashed line you referred to, and in places it is dashed also?

The Witness: In one or two instances it is dashed. It is the meandering line about the same width as the dashed line.

Q. (By Mr. Rowe): Mr. Lee, referring to the solid curved line on Plaintiffs' Exhibit 30, how was that drawn?

Mr. Abercrombie: Is this still the alluvial cone line?

Mr. Rowe: Yes.

Mr. Abercrombie: The reason I asked, the witness said he determined it in a number of ways, first the topographic site between the San Joaquin and Dry Creek. That is just [950] the first way. He hasn't finished his answer.

Mr. Rowe: I believe Mr. Abercrombie is correct on that.

Q. Tell us how else you determined the dashed line.

(Testimony of Charles H. Lee.)

Mr. Abercrombie: And when the work was done.

The Court: How else he determined the limits of the alluvial cone, as shown on that map.

What else did you do, and what did you find out?

The Witness: I am still describing about the meandering line.

Q. (By Mr. Rowe): Is that the south line on Plaintiffs' Exhibit 30?

A. Yes. On the north, a similar sag between the San Joaquin River drainage and cottonwood creek, which is the next stream to the north in Madera County.

The meandering line on north of the San Joaquin was determined in that manner, by following that sag. At the head of the——

Mr. Abercrombie: Just a minute. That you got from USGS survey that you had before you there?

The Witness: Yes. The sag, both on the south and the north of the San Joaquin River, was determined from the topography of these maps.

Mr. Abercrombie: When was it that you made that determination?

The Witness: It has been made progressively during a [951] number of months, using these topographic maps, with some checking on the ground.

The Court: Is that the only maps you took into consideration in determining the limits?

The Witness: The topographic end of it, yes.

The Court: The limits, the limits of the cone go down into the ground, do they not?

The Witness: There were other considerations.

(Testimony of Charles H. Lee.)

The Court: All right.

The Witness: My first statement referred to the line on this map, which is the topographic limit.

The Court: All right.

Q. (By Mr. Rowe): And that is the solid meandering line on Exhibit 30?

A. Yes.

At the head of the cone, the topographic and soil conditions and rock conditions were considered, that is, the——

Mr. Abercrombie: If the court please, I am interested in the question how he did it. If he made a field trip, I would like to know when he made it, and if he determined it from soil surveys——

The Court: I suppose you will get around to that. If he made a soil survey, you can find out when he made it.

Mr. Abercrombie: I understood that was what he was going [952] to tell, and I wanted it so I could understand it.

Mr. Rowe: There is going to be a special exhibit on the soil survey conservation. This is in general describing the map.

The Court: Tell us generally what other factors you took into consideration, besides the topographic map.

Oh, incidentally, in connection with the topography, how did you determine the westerly limits?

The Witness: The westerly limits extend beyond the topographic limits of the alluvial fan, into the

(Testimony of Charles H. Lee.)

trough of the valley. It was noted that the water table slopes continued beyond the cone, and——

Mr. Abercrombie: Move to strike the answer as not responsive. The court asked how he determined the lower end of the fan.

Mr. Rowe: He is giving the answer.

The Court: He is saying that now.

Mr. Goldberg: As I understood him, he said he couldn't determine the westerly limits of the fan. He said it bends out——

The Court: No.

Mr. Goldberg: ——that the westerly limits extend beyond the topographic limits of the alluvial fan.

The Court: The record will speak for itself.

Mr. Abercrombie: Counsel stated repeatedly that this [953] shows the alluvial cone of the San Joaquin River. He said that a hundred times. We want to know how he determined the lower edges.

Mr. Rowe: We will get around to showing you.

Mr. Abercrombie: I ask the court to instruct the witness to answer that.

The Court: What other things did you take into consideration?

I take it the edge of the alluvial cone is also—well, go ahead.

Q. (By Mr. Rowe): Mr. Lee, what other factors did you take into consideration——

The Court: Mr. McPherson's motion for a recess is granted.

(Recess.) [954]

(Testimony of Charles H. Lee.)

Mr. Rowe: If the court please, Mr. Blote is present in court—Mr. McPherson now has a client—and I am excusing in the record Mr. Blote. He has furnished Mr. Lee with the information he was subpoenaed to furnish, and unless Mr. McPherson wants him he may be excused.

The Court: Released from the subpoena as far as you are concerned?

Mr. Rowe: Yes.

The Court: Very well.

Proceed.

Q. (By Mr. Rowe): Mr. Lee——

Mr. Green: If the court please, before we proceed with the examination of this witness as to the existence of this alluvial cone, could we have his definition of what an alluvial cone is so we will know what he is talking about?

The Court: I think that might be a good idea.

Q. (By Mr. Rowe): Mr. Lee, would you define an alluvial cone or fan, or whatever it is?

A. An alluvial cone or fan is the pile of debris carved from a mountain watershed by stream flow and deposited in the valley into which the stream discharges from its mountain canyon.

This pile of debris accumulates more or less in front [955] of the mountain canyon on the floor of the valley. In some instances where there are large streams a portion of the material is carried beyond the limits of the cone into lower reaches, the coarser material being deposited near the mountain canyon.

As the stream comes out of the mountains the

(Testimony of Charles H. Lee.)

velocity decreases so that the coarse material drops first at the head of the cone and out on the cone and the finer materials are carried further out onto the cone and, in some cases, as I say, in a large stream it may be carried by the stream beyond the limits of the cone into lower reaches.

Deposits made by a stream on its alluvial cone or fan may be in aerial conditions, that is, in the atmosphere, or they may be made under water in a lake or in the sea. As we know cones in the Owens Valley or in the Santa Ana Valley and on the west side of the San Joaquin Valley, they are deposited in the atmosphere and not under water so that the different channels taken by the stream in its course down the cone are not obliterated but they remain, and as more material is deposited upon them those courses taken by the stream at various times in its previous history become buried, the coarser material near the stream channel and the finer material out.

These old channels in the cone become ultimately distributaries by which water flowing in the stream and seeping [956] from the stream into the banks enter and percolate down these distributaries which are more permeable and find their way from thence into the less permeable material surrounding the buried channels.

Where the water is deposited in a lake, for example a lake which might have a stage high enough to bring it right up to the top of a cone previously deposited in the air, then when deposited on the lake the coarse material is deposited immediately at

the edge of the lake or out into the lake a short distance and no channels are formed to later become aquifers. Instead of there being these buried channels in a lake condition, the shore currents tend to distribute the sands and silts and clays which are carried out into the lake in the form of beds extending out either side from the point of departure of the stream from its mountain canyon.

Where the level of water varies the conditions sometimes in the building up of a cone will deposit the material in the form of channels and then a cone built up in that form may later be buried by later beds of sand or silt distributed out by the shore currents of a lake.

There may also at times be rising of the ocean or sinking of the land so that the ocean floods a cone, and in that case the very fine materials are carried out a considerable distance. But the alluvial cone in its fullest development as we know it in more arid districts, such as the Owens Valley [957] or the southern San Joaquin, is primarily one of atmospheric deposit and the further north in the San Joaquin Valley the lake conditions or flooding of the ocean has modified at certain periods of the history of these cones, has modified the ideal cone formation by such deposition of lake beds.

In the case of the San Joaquin it is possible that certain portions of the area within what now appears to be the cone may have the deposition under water but it appears more likely that there was local ponds that the material came out from the

(Testimony of Charles H. Lee.)

mountains at such enormous volumes that there was local ponding giving the form of bedding, but this local ponding is superimposed about the cone form which existed prior to the submersion.

Q. Mr. Lee, would there be any similarity of river depositing in a lake and a formation of deposits further and further into the lake with the delta, say, of rivers like the Mississippi or Nile?

A. Yes. The rivers discharging into a body of water form what is known as a delta.

The Court: Or the Colorado?

The Witness: The Colorado has done the same thing; yes.

Q. (By Mr. Rowe): In other words, the mere fact that there may be a body of water that the river is running into with its [958] deposits doesn't preclude forcing those deposits further and further out,—does it?

Mr. Abercrombie: Move to strike the question as leading and suggestive.

The Court: Motion denied.

The Witness: No.

Q. (By Mr. Rowe): Now as I understand you, on Plaintiffs' Exhibit 30 the meandering solid line is just taken from the—what do you call these quadrangles?

A. United States Geological Quadrangles, topographic maps.

Mr. Abercrombie: Object to the question and move to strike the answer on the ground that that is not what the witness said, and also on the ground

(Testimony of Charles H. Lee.)

that it is leading and suggestive. I understood that he had determined the line by a number of things. I asked him that very question myself when he determined those lines on that map.

The Court: I understood that he determined the limits there by a number of things, that that line on the map was merely the topographic surface indication and that that was only one of the things that entered into his conclusions as to where the alluvial cone of the San Joaquin ended northerly and southerly of the river. [959]

Q. (By Mr. Rowe): Mr. Lee, you have both a solid meandering line and a dashed line on Plaintiffs' Exhibit 30 and on Plaintiffs' Exhibit 1—no, Plaintiffs' Exhibit 30.

The Court: That is the topographic map?

The Witness: Yes.

Q. (By Mr. Rowe): Directing your attention to the solid meandering line, what facts did you take into consideration in drawing that line?

A. As shown on Exhibit 30, that was based solely upon topography where the topography was available in the form of the sag between stream cones.

Mr. Abercrombie: When was that done? That is what I would like to know, your Honor. That is what I asked him, when that line was imposed on that map.

Mr. Rowe: That is cross examination, isn't it? Mr. Abercrombie was just shown he was wrong in his first statement.

(Testimony of Charles H. Lee.)

The Court: Yes, I think he can develop that on cross examination. However, I suppose——

When did you come to a conclusion as to the limits? Is that the only thing that you took into consideration in figuring the limits of this alluvial cone?

The Witness: No, your Honor. I think the confusion [960] there arises from this, that on Exhibit 1 is stated along the line, topographic boundary of the San Joaquin alluvial cone, and topographic boundary means exactly what it says, namely, the position of the sag between the stream cones on either side of the San Joaquin.

On Exhibit 30 the same thing is true, the solid red line follows the topography, but there are other matters to consider in determining the limits of the cone, that is, the surface alone doesn't determine the limits of the cone. There is no map on which I have shown what are the limits of the cone, but I consider that the limits of the cone are generally as indicated by the topography on the surface except that there is the tendency where two cones, one alongside the other, to interfinger, as it were, that is, sometimes one stream will run out a little ways onto the adjoining cones and subsequently the other stream may run out a little ways to the first cone, and there is that interfingering between cones.

But in my experience, except in special cases, the topographic boundary is a very good indicator of the limits of the subsurface cones.

(Testimony of Charles H. Lee.)

The Court: Is that generally accepted in the engineering profession, that is, by those who devote their time to hydrology?

The Witness: As far as I am aware, yes. [961]

In studying this cone I have also considered soil and the subsurface formations as indicated by well logs and the behavior of the water table, and in general I find that from all those indications the topographic boundary as shown upon these maps is generally the same.

I do note——

Mr. McPherson: The same as what?

The Witness: The boundary of the cone considering it vertically in general is the same as the boundary of the topographic cone that is shown on top, except in some instances where one stream or another has temporarily broken over at a lower level.

I note in one instance, and it was in the City of Fresno, that the San Joaquin at one time seems to have been further out, a distance of a mile or so, from the solid red line on Exhibit 30. That was at a lower level. Then at a higher level the Dry Creek seems to have come northerly into the San Joaquin a short distance. There is that slight interfingering.

But in general I consider the topographic boundary as being a reasonable representation of the position of the cone in the vertical direction.

Q. (By Mr. Rowe): And as I understand it, the solid meandering line on Plaintiffs' Exhibit 30

(Testimony of Charles H. Lee.)

and the solid meandering line on [962] Plaintiffs' Exhibit 1 are taken from these quadrangles?

A. Yes, they are both.

Q. Now the dashed line, does that take into consideration other factors, that is, the dashed line on Plaintiffs' Exhibit 30?

A. In general the dashed line on Plaintiffs' Exhibit 30 is merely conventionalized following the legal boundaries of land according to the public survey. It zigzags back and forth. In some localities where it was noted that the well logs indicated that subsurface the cone extended somewhat south of the topographic boundary, the legal boundary was drawn on that side of the solid line, on the side away from the cone, but in general it zigzagged back and forth.

The Court: And in cases where the well logs indicated north of the south boundary you drew the legal description line northerly of the cone line?

The Witness: The only case in which there was indication of the adjacent stream encroaching upon the cone was in the case of Dry Creek whose deposits are superficial and the Dry Creek cone has been building for a period of time since the San Joaquin ceased to build.

The Court: Little Dry Creek or Dry Creek?

The Witness: Dry Creek.

Mr. Abercrombie: If the court please, we object to this line of testimony by this witness again. We do not have the [963] foundational information and

(Testimony of Charles H. Lee.)

he is giving opinions with no opportunity on our part to object on lack of foundation. If he made surveys and investigations, let's find out what they were first so that we will be able to understand what the witness is talking about. If he used Government maps, Government soil surveys or if he made his own, we would like to know that. If he has his own well logs, we would like to see them.

We object to this line of testimony.

The Court: Overruled. [964]

Q. (By Mr. Rowe): Mr. Lee, then in the dash line on Plaintiffs' Exhibit 30 you have given consideration to other things than the topographic——

Mr. Abercrombie: Move to strike the question as leading and suggestive.

Mr. Goldberg: Also asked and answered.

The Court: It has been asked and answered.

Q. (By Mr. Rowe): What factors, other than the topographic, have you considered in placing the dash lines?

Mr. Goldberg: Same objection.

Mr. Abercrombie: Same objection, asked and answered.

Mr. Rowe: I don't know that he has given them all.

The Court: Well, have you stated all the factors that you took into consideration in reaching your conclusion as to the limit of the alluvial cone?

The Witness: In a general way, yes.

Mr. Rowe: That is all, then, on that particular line.

(Testimony of Charles H. Lee.)

May I have the legal description, Plaintiffs' Exhibit 1?

Q. Mr. Lee, is there any connection between the legal description on Plaintiffs' Exhibit 1 and the dash line on Plaintiffs' Exhibit 30?

A. Yes. [965]

The Court: Asked and answered. He said that is it.

Mr. Rowe: All right.

The Court: It is the legal description, the meandering line.

Q. (By Mr. Rowe): Now, are you familiar with Mr. Segel's book of well logs,—— A. Yes.

Q. ——introduced as Plaintiffs' Exhibit 54?

A. Yes.

Q. And do you know when this was completed?

A. About two days ago.

Q. Did you consider the well logs in Plaintiffs' Exhibit 54, in arriving at the boundaries of the alluvial cone, as shown on Plaintiffs' Exhibit 30?

Mr. McPherson: Objected to, if the court please. The alluvial cone limits was given in January 1952, in Los Angeles, and that document wasn't finished until day before yesterday, according to his own statement.

The Court: No, he said the document was prepared then. He now asks whether or not he considered the well logs. The well logs might have been considered by the witness without them being in the form of that document, and I take it that is what counsel meant by his question.

(Testimony of Charles H. Lee.)

Mr. Rowe: Yes. [966]

The Witness: What was the question?

The Court: Did you consider the well logs Mr. Segal has compiled in that document?

The Witness: Yes.

The Court: In reaching your conclusions?

The Witness: Yes.

Mr. Abercrombie: When were those well logs offered to our engineers, your Honor, for our consideration?

The Court: I beg your pardon?

Mr. Abercrombie: When were those well logs offered to our engineers, following the Los Angeles hearing?

The Court: I don't know.

Mr. Goldberg: They never were.

Mr. Abercrombie: We never have seen them until they were introduced here.

Mr. Rowe: They were just completed, bound together, when Mr. Segel brought them up here.

Mr. Goldberg: How is it Mr. Lee had them and our man didn't?

Mr. Abercrombie: That is quibbling, plain and simple. We are entitled to them.

Mr. Rowe: Why didn't you go up and ask him. We asked a man in Sacramento.

Mr. McPherson: We did ask a man in San Francisco, and didn't get them. [967]

The Court: I don't think it pays to go beyond 12:00 o'clock. Everybody always gets into a fight.

(Testimony of Charles H. Lee.)

Mr. McPherson: This fight is a rather serious question.

Mr. Rowe: No, it isn't serious.

The Court: There is no question pending.

Mr. Goldberg: It looks like a lack of candor on somebody's part.

The Court: What is that?

Mr. Goldberg: It looks like lack of candor on their part. There has been an exchange of information on everything we have.

The Court: Let's get on with the lawsuit here.

Q. (By Mr. Rowe): Mr. Lee, have you some soil maps of the United States Department of Agriculture, which were used by you in your determination?

Mr. McPherson: I don't think he ever answered the question that was pending when we got into the argument.

The Court: Yes, he said he considered those logs.

By the way, when were those logs available to you, from time to time?

The Witness: They were available from time to time, your Honor.

Mr. McPherson: Beginning when?

The Witness: The last part of December. [968]

Mr. Abercrombie: You had them all, did you, before the hearing at Los Angeles at which the alluvial cone line was presented to the court?

The Witness: No.

Mr. Abercrombie: Then how did you consider all of them in arriving at that line?

(Testimony of Charles H. Lee.)

The Court: You can cross examine him later.

Mr. Abercrombie: It is so obvious, your Honor.

Mr. Rowe: You ought to read the exhibits some time, Mr. Abercrombie, instead of just getting up and saying, "I object."

The exhibit in Los Angeles says, "Topographic Alluvial Cone." That is all he considered. And if your engineers don't know where to find that, or what to do, we will help them find out.

The Court: Let's get on.

Q. (By Mr. Rowe): Have you those soil maps?

A. Yes.

The Court: Just a moment. You say these logs were made available to you. What did you do, go around to the different wells, the contractors, or people who drilled them?

The Witness: Either I, or most of the work was done by subordinates or city employees. [969]

The Court: They gathered them together?

The Witness: Yes.

The Court: It was not, however, compiled until just a few days ago, in that form, is that correct?

The Witness: Correct.

The Court: Go ahead. The soil maps you are talking about.

Mr. Rowe: Another thing, we didn't even have a copy. The well drillers wouldn't give up their logs.

Mr. Abercrombie: If the court please, if counsel wants to be sworn, that is fine. Otherwise we are

(Testimony of Charles H. Lee.)

not interested in counsel's statement, and I move to strike the statement from the record.

The Court: Motion denied.

Q. (By Mr. Rowe): Have you those soil maps, Mr. Lee? A. Yes.

Q. Would you tell Mr. Abercrombie's engineers where to find these government soil maps? This is some of the stuff that——

Mr. McPherson: I would prefer the witness direct his remarks to the record.

The Court: It may be stricken.

Mr. Abercrombie: There is a question pending, is there not? [970]

The Court: He said he considered the soil maps. Where were they available? Where did you get them, from the government?

The Witness: Yes.

The Court: USGS?

The Witness: I got them from an office of the University of California, but they are a joint product of the University of California and the United States Department of Agriculture.

Mr. Abercrombie: What are they?

Mr. Goldberg: Can we have them identified?

The Court: Do you have them here?

Mr. Rowe: Yes.

Mr. Abercrombie: If they are public documents, can we have the numbers?

Mr. Rowe: Is it your understanding, Mr. Abercrombie, that I was to get copies of public documents and furnish to you people?

(Testimony of Charles H. Lee.)

The Court: Do you wish to have these marked?

Mr. Rowe: Yes.

Mr. McPherson: If the witness relied on them; otherwise not.

The Court: The next number, Mr. Clerk, is—

The Clerk: 60.

The Court: What are they, consecutive, or [971] simultaneous, or one dated earlier than the other? Let me see them.

The 1915 one will be marked 60 for identification, and the 1916 is 61.

(The exhibits referred to were marked Plaintiffs' Exhibits 60 and 61 for identification.)

The Court: It is entitled "United States Department of Agriculture, Bureau of Soils, Washington. Government Printing Office. Printed in 1918. That is the 1915 report.

It does not appear to have a document number.

Mr. Goldberg: Does it not have titles and numbers on it, your Honor? Isn't there any sort of a number on the flyleaf?

The Court: Not a document number.

Mr. Goldberg: Not a document number, or Department of Agriculture number?

The Court: It does not have a Department of Agriculture number. It says, "Reconnaissance Soil Survey of the Lower San Joaquin Valley, California," by Nelson, Guernsey, Holmes and Eckman, and so forth.

The other document, Exhibit No. 61, is likewise entitled "U. S. Department of Agriculture, Bureau

(Testimony of Charles H. Lee.)

of Soil. Reconnaissance Soil Survey of the Middle San Joaquin Valley, California, Advance Sheets, Bureau of Soils, 1916." Printed, however, Washington Government Printing Office, 1919. Likewise it has no identifying number of any kind.

Q. (By Mr. Rowe): Mr. Lee, these are rather rare documents, aren't they? [972]

A. They are rather rare, but those are available as exhibits.

Q. So that we can introduce them in evidence?

A. Yes.

Q. Are there maps showing the soils, in the exhibits for identification 60 and 61, in the lower San Joaquin Valley and upper San Joaquin Valley?

Mr. Goldberg: Object to that, if the court please. Ask him what he relies on.

The Witness: Yes.

Mr. Rowe: Well, I am putting on my case, counsel.

The Court: Well, he has answered.

Q. (By Mr. Rowe): Mr. Lee, showing you Plaintiffs' Exhibit for identification No. 60, would you indicate the map to which you just made reference, the soil map?

A. Yes, that map is pasted on the back of the report, in folded form.

The Court: And extends on the bottom from Township 12 South—what is that, San Bernardino Base and Meridian?

The Witness: San Bernardino Base and Meridian, to 2 north.

(Testimony of Charles H. Lee.)

The Court: Is that San Bernardino Base and Meridian or Mount Diablo? [973]

The Witness: Mount Diablo Base and Meridian.

The Court: And begins generally at the San Joaquin River on the south?

The Witness: That is right.

The Court: That is No. 60.

All right, are you going to testify from this map and explain it, or something?

The Witness: I think the question included an explanation. The map indicates the different soil types, as classified by——

The Court: I wonder if we don't have an easel here. Perhaps counsel would also like to follow the witness.

Mr. McPherson: If it is just a common soil map, I don't care to follow it.

Mr. Rowe: It is not just a common soil map.

The Court: If counsel doesn't want it, I don't care.

Mr. Goldberg: I would like to see it.

The Court: If you don't care to see what he is testifying——

Mr. Reavis: I would like very much to see it.

Mr. Child: We would like to have it put up there.

The Court: Then it will have to be detached from this book.

Mr. Goldberg: Mr. Ingerson suggests that this is a fairly unusual document, and the book should not be mutilated. [974]

(Testimony of Charles H. Lee.)

Mr. Rowe: I think it is very rare.

The Court: How can we take it out?

Mr. Rowe: Take the map out. We can paste it back.

(The map was placed on an easel.)

The Court: Will you take this red pencil and mark down on the corner, so I can see, "60-A."

The Witness: I have so marked it.

The Court: Very well.

By the way, in connection with these documents, which counsel suggests are so rare, I suppose there is someplace in Fresno where they can be microfilmed, is there? Does anybody know?

Mr. Rowe: Not that I know of, microfilm. Do you know of any, Mr. Child?

Mr. Child: I don't know of any.

The Court: Well, the clerk's office in Los Angeles, I think, now has a microfilm process, and they can probably do that for a nominal charge. If you have it microfilmed, you can get a microfilm reader. Isn't there one in Fresno?

Mr. Rowe: I believe the County Recorder's Office has one.

The Court: Photostating these documents would be very expensive; microfilming is not so expensive and they could be blown up at any time. [975]

Go ahead.

Q. (By Mr. Rowe): Mr. Lee, did you use this map, marked as Plaintiffs' Exhibit for identification 60, in determining the boundaries of the alluvial cone of the San Joaquin River?

(Testimony of Charles H. Lee.)

A. I studied it—Yes, I studied it in connection with the topographic boundaries and in making a study of the cone of the San Joaquin River.

Mr. Rowe: If the court please, will you mark that map 61 for identification—or the clerk?

The Court: I will.

Mr. McPherson: 61-A.

The Court: 61-A, the map.

This 61-A begins at Township 22 South; in other words, it is below that one?

The Witness: Yes, your Honor, and extends up to the San Joaquin River on north.

The Court: It begins where that map leaves off?

The Witness: Yes.

The Court: Now, do you want to place this on the board with that?

Put it down a little, then you can put the other one on, too.

The Witness: I can explain this one, and put the other on top. [976]

The Court: All right.

(Map placed on easel.)

The Witness: This map has various colors which indicate the different types of soil, as classified by the Department of Agriculture.

The Court: This map being now 61-A?

The Witness: 61-A.

The Court: Yes.

The Witness: There is a green color——

The Court: All right, the north boundary is what?

(Testimony of Charles H. Lee.)

The Witness: The north boundary is the San Joaquin River.

The Court: And this shows the—this is a soil map beginning at the San Joaquin River and extends southerly?

The Witness: Yes, it extends to Tulare Lake and Kaweah Alluvial Cone, and extends from the base of the Sierra Nevada Mountains on the east to the base of the hills on the west side of the valley, including the trough of the valley.

The Court: All right.

The Witness: On this map has been drawn a red line, a heavy red line, which I am now tracing, from a point just below the Friant Dam, marked "Friant" and southerly and southwesterly.

This boundary I am now indicating is the same as the boundary shown on the solid line on Exhibit 30, also Exhibit 1, as being the south boundary of the cone of the San Joaquin River. [977]

Mr. McPherson: Who drew it?

The Witness: I did, and placed it upon this map.

It will be noted that that line follows, in many instances, boundary lines between different types of soil. Immediately south, about six miles south of Friant, for example, on the one side is a green color, indicating what is known as the soil of the San Joaquin Series, which are soils which form on the top of the older alluvia of the valley. Those are so described in the report as being soils upon the more ancient alluvial deposits in the sands of the stream shown on this map.

(Testimony of Charles H. Lee.)

Now, immediately west of the heavy red line, and opposite that area of green, is a brown area. That represents another series of soils of a later date, the so-called Madera Series; and it appears that the topographic boundary follows closely the junction or boundary between those two types of soil.

Following down more to the southwest is another large area of green, of those older soils, and to the south of the heavy red line, opposite that area of green, is a blue area. The blue represents a later type of soil deposited on alluvial sands, and it is known, in the classification used by the Department of Agriculture, as undifferentiated soil, Oakley and Madera. [978]

In other words, there was no differentiation made between the Oakley Series and the Madera Series in that blue area.

I might state that the Oakley Series is a series of soils more or less deposited by the wind. It is a characteristic of that type of soil, and it is alluvial soil, but picked up and transported by wind.

Now in this area I am now describing, the red line—— [979]

The Court: That area lies a little northeasterly of Fresno, the City of Fresno?

The Witness: Yes, your Honor, northeasterly, northerly and northwesterly.

The red line there follows between the two areas, the green, the San Joaquin Series, and the rather

(Testimony of Charles H. Lee.)

bluish color representing the Oakley and Madera Series.

The Court: There is a streak of brown in there also.

The Witness: There is a streak of brown representing the Madera Series which lies partly on one side and partly on the other of the topographic boundary.

The Madera soils in green are deposited as a result of alluvial action in reworking the older soils. The Madera soils are the next in age later than the San Joaquin soils, and they represent rehandling of San Joaquin and older soils and deposition at another point.

This narrow strip of Madera soil lying partly on one side and partly on the other of the red line for a distance, and then the red line comes right to the junction between the green and the blue.

Further west, northwest of Fresno, is a broader strip of Madera and the red line follows right through the center of that and then swings westerly following very closely to the San Joaquin Series in green to a point immediately north of [980] Kerney Park, which is about six or eight miles west of Fresno.

Here the topographic boundary extends to the southwest and a new series of soils, entirely new, appears. It might be pointed out that there is also another red line shown on this map starting at a point just above Herndon on the San Joaquin River and extending southerly — it is shown as a broad

(Testimony of Charles H. Lee.)

red line—extending southerly to a junction with the first one that we have been following just west of Kerney Park.

Mr. McPherson: Who put that line on there?

The Witness: I did.

The Court: That corresponds to what you call in Exhibit 1 here as the topographic boundary San Joaquin modern alluvial cone?

The Witness: Yes, your Honor.

The Court: The junction of the red line between there and Friant, as you have indicated, is what you have described on Exhibit 1 as the topographic boundary, the southerly topographic boundary of the San Joaquin ancient alluvial cone?

The Witness: Yes, your Honor.

Now that red line extending from Herndon southerly taken from the topographic map follows very closely the western edge of the San Joaquin soils where they change to the Madera [981] soils and also the Fresno type of soils.

Now the Fresno Series is still later and represents a still later deposition of more recent character than either the San Joaquin or the Madera Series.

This red line follows very closely that boundary. The Madera soils are shown in a sort of mauve color—I mean to say the Fresno soils are shown in a sort of mauve color, marked F-F.

Further south the Fresno soils extend for a short distance east of this topographic line and then at the point of junction with the red line from

(Testimony of Charles H. Lee.)

Friant, the red line from the north is bordering upon the Madera Series, and there is an area of the Madera Series.

To the west is an area of a different colored green, it is a lighter green, soil. That is not the same as the San Joaquin which is a darker green. This lighter green is a mixture of undifferentiated, of the Fresno soil and the Oakley, and is of a more recent series corresponding with the Fresno soils, and the red line as it extends westward from that point of junction follows along the southern boundary of that area until it reaches the Southern Pacific Railroad extending southeasterly from Kerman.

From there westerly the line follows roughly between two series of Fresno soils, a lighter and a darker fawn color, and finally it terminates at the edge of the trough of the valley. [982]

The Court: What are those green soils to the left?

The Witness: They are of another type. They are a still lighter green. They are of another series and known as the Merced Series. They lie in the trough of the valley.

Referring now to Exhibit 60-A, a similar red line has been drawn by me extending from a point just below Friant, southwesterly and westerly and northerly of the San Joaquin River, and extending out to the trough of the valley north of Mendota.

That line follows from the Santa Fe Railroad, follows the boundary very closely of the San Joa-

(Testimony of Charles H. Lee.)

quin Series soils in the dark green and Fresno and other soils in the lighter colors to a point where there is about six miles north of the river at the Southern Pacific Railroad crossing at Iragosa.

Then that line extends to the southwest across through the middle of a series of Madera type of soils and then finally turns west following roughly the south of still another series of soils which is quite recent, known as the Hanford, in an olive color on the map.

Westerly of that point the line extends through an area of unbroken Fresno soils to a point about Aliso Canal, just east of Aliso Canal, and then there is a line of the undifferentiated Oakley and San Joaquin Series which the line [983] follows through the center to its termination at the edge of the trough of the valley.

The Court: Now easterly of the Santa Fe, you did not describe that. You described the beginning of the Santa Fe.

The Witness: Easterly the line follows across an unbroken area of the San Joaquin soils for a distance of six or seven miles and then follows through the center of an area of the Madera soils.

The Court: That is a tongue of the Madera soils?

The Witness: Forming a tongue which lies north of the Old Lanes Bridge and extending westerly three or four miles and northeasterly two or three miles. I am now pointing to the location of the Old Lanes Bridge.

Thence the line extends to the river south of

(Testimony of Charles H. Lee.)

the bedrock or lava rock exposure and runs right to the bluffs of the river, following the bluffs thence to Friant.

Q. (By Mr. Rowe): Mr. Lee, do the soils within the alluvial cone, or how do they indicate, that is, within the red line on 60-A and 61-A, how do they indicate the location of the boundaries of the alluvial cone?

Mr. Abercrombie: Leading and suggestive, if the court please, and assumes that they do indicate it. If he wants to ask the witness what they indicate, why that is another thing. [984]

The Court: I think so. I think it is leading and suggestive. [985]

* * * * *

Q. (By Mr. Rowe): Mr. Lee, referring to Plaintiffs' Exhibits 61-A and 60-A, back of you there, in what way do those maps, if they do, [991] aid you in determining the boundaries of the alluvial cone of the San Joaquin River?

A. They aid as one item in indicating the extent of the cones. There are a number of different lines of investigation which were followed, and the soil investigation was one of those methods.

The Court: Well, Friday, at the last session, you had described the method you used in the surface department.

The Witness: Yes, your Honor.

The Court: And you have now concluded the factors you took into consideration with the soil matter?

(Testimony of Charles H. Lee.)

The Witness: Yes.

The Court: Or had you?

The Witness: I had indicated them in a general way, yes.

The Court: Now, what is the next factor you took into consideration?

The Witness: I took into consideration the old stream channels which led from the San Joaquin out onto the old cone and more recent cone of the river. [992]

Q. (By Mr. Rowe): Now the legal description which you gave the court——

The Court: Are you not going to have him tell us about the old stream channels?

Mr. Rowe: I was; yes, sir.

Q. Showing you Plaintiffs' Exhibit No. 30, Mr. Lee, these topographic maps, is it possible from these maps, constituting Exhibit No. 30, to determine the location of the ancient channels of the San Joaquin River within the boundaries of the alluvial cone of the San Joaquin River?

A. Yes.

The Court: Is it possible to locate the channels, the ancient channels, of the San Joaquin River, period, without regard to something else. What we are trying to find out is where the alluvial cone is.

Q. (By Mr. Rowe): Would you indicate in blue on Plaintiffs' Exhibit No. 30 the old channels of the San Joaquin River?

Mr. McPherson: May I ask a question of the witness so I will understand his answer?

(Testimony of Charles H. Lee.)

Are those locations now to be the location of the ancient channels of the river in his opinion or as indicated by Exhibit 30 alone?

The Witness: As indicated by Exhibit 30 alone on the basis of topography. [993]

The Court: That is his opinion. You were not there, were you?

The Witness: That is correct.

The topography indicates in some instances ridges and in some instances ravines which extend out on either side, to the north into Madera County and to the south into Fresno County, and they are indicative of the positions of the course of the river at one time in depositing material.

Mr. Goldberg: May I ask the witness a question along the lines of Mr. McPherson?

Mr. Lee, you are going to determine these old channels from evidence which is available on the face of Exhibit No. 30?

The Witness: Yes.

The Court: By the way, in connection with the topographic maps, I notice that these are contour intervals of 5 feet and 25 feet, changing on the 550 foot contour, and these are in quadrangles.

I should imagine that either the State of California or the Bureau of Reclamation must have a topographic map of this whole area that is not broken down into quadrangles where the contours are not at as short intervals as that. I have to look at this a piece at a time, and they are not put

(Testimony of Charles H. Lee.)

together, and there is no way you can put them together consecutively so you can follow it. [994]

Does the State of California have such a map?

Mr. Rowe: I don't believe so. I don't think so.

The Court: Do they not have a map covering Fresno County or Fresno and Madera County?

Mr. Goldberg: On 5-foot contours?

The Court: Or 25.

Mr. Goldberg: You mean with uniform contours?

The Court: Yes.

Mr. Goldberg: I don't know.

The Court: Some uniform contours. And even in these quadrangles, there is one quadrangle that is on a different contour.

Surely in the study of this problem the State of California and the Bureau of Reclamation must have gotten some contour map so that somebody can sit down and look at the whole map. Have you?

Mr. Ingerson: Your Honor, those maps are the standard map but they can be pasted together to one large sheet, but the difficulty is that the sheet becomes so large as to be room size for this case that we have in mind, using the scale that is available from those maps.

The Court: It seems to me like somebody would have had a map maker take a different scale than this, say a 25 foot contour, and must have prepared a map of this area on a uniform scale and a uniform contour so that you could look at Fresno [995] County at one time. I mean, they build

(Testimony of Charles H. Lee.)

models. The City of Los Angeles, which is not any particular example, but they built a model to scale from the Colorado River on into the city so you could get it in a room half the size of this and look at it.

Mr. Ingerson: Your Honor, if that map were put on the size that you ask for I believe the map would not carry the detail perhaps that Mr. Lee is trying to present at this moment.

The Court: Maybe it would not carry the detail, but it could be transferred from this detailed map to that map so that a person could take one look at it and get the course of where he says the river goes without taking the river down here and then picking up a piece of the river which is 10 miles away or 36 miles away.

Anyhow, nobody has one. Proceed.

The Bureau has not said anything. Do they have such a map?

Mr. McPherson: I know of none, your Honor. We use the quadrangles.

The Witness: Starting first with the Herndon sheet——

The Court: The difficulty here is going to be—I realize that I am the one who is supposed to make this decision and the witness is testifying ultimately for my benefit at the moment—but also for the benefit of the record so [996] that counsel may have their rights some place else. Is there some way we can put a map up so counsel can see what he is pointing to?

(Testimony of Charles H. Lee.)

Mr. Rowe: We might put them up a section at a time.

The Court: Do you need these other maps?

Mr. Rowe: I don't think so.

The Court: Do not those have contour intervals of some kind?

The Witness: No, your Honor.

(Arranging maps on easel.) [997]

The Court: You are now turning to what quadrangle?

The Witness: The Herndon quadrangle.

The Court: And that is on a different scale than the others?

The Witness: Yes. That is on a scale of two inches to the mile, but it has a 5-foot contour interval.

Commencing at a point immediately northwest of the town of Herndon, crossing the railroad at Herndon Avenue is a ravine, a very marked ravine, which has its head at the edge of the bluff on the south side of the San Joaquin River.

The Court: And northerly of the railroad tracks?

The Witness: It is easterly of the railroad tracks, about a half mile, that is, the Southern Pacific, about a half mile, and about three-quarters of a mile northwest of Herndon.

The Court: Well, I see the river there. Is that the line of the river, the dark line? The river there takes a northerly bend.

The Witness: Yes, your Honor. That is the river channel in the bottoms.